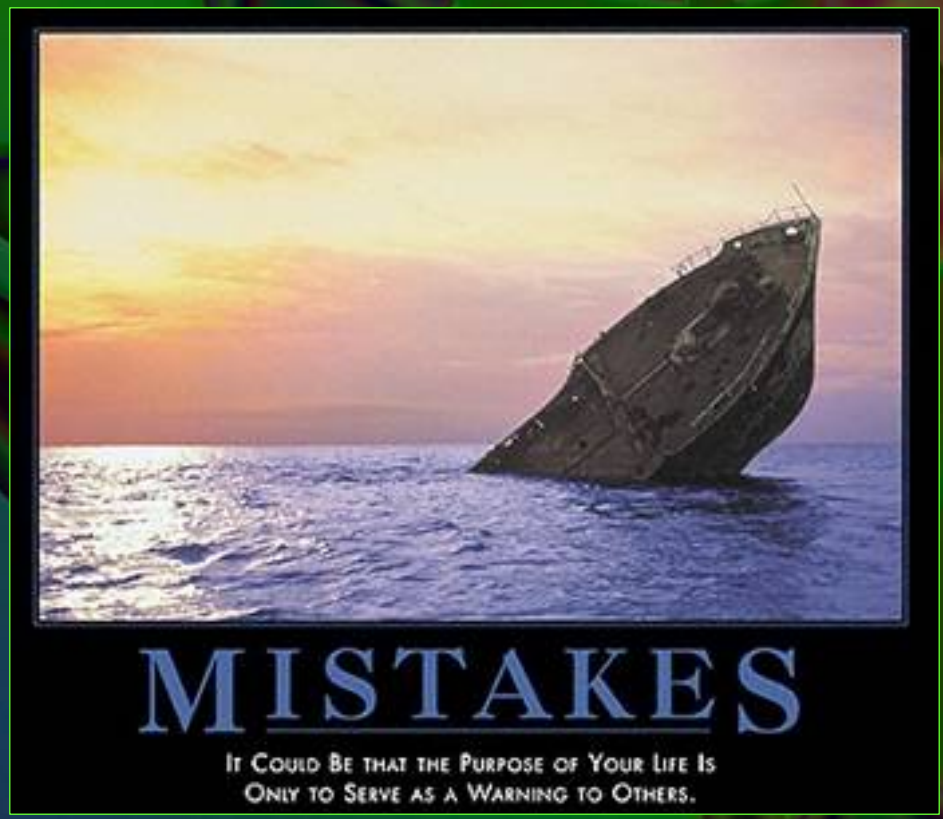
TOP 10 VIOLATIONS

(aka 'You were *serious* about that?!?)



Reduce fines, risks & make your CUPA happy!

6th Annual Environmental & Regulatory Issues Conference and Exhibition

Printed Circuit Board Mfrs, Metal Finishing & Plating Shop Industries

Special Compliance Workshop

09 November 2007

Welcome and Introductions

Jim Gohres

- Environmental Health Specialist III
- SDC DEH Hazardous Materials Division

Steve Lichten

- President / Principal Environmental Scientist
- ESCI EnviroServices, Inc. (uh… Long Beach)

For the fourth year in a row, the Original Costume Contest at SDC DEH's annual Halloween party had no clear winner.

Workshop Objectives

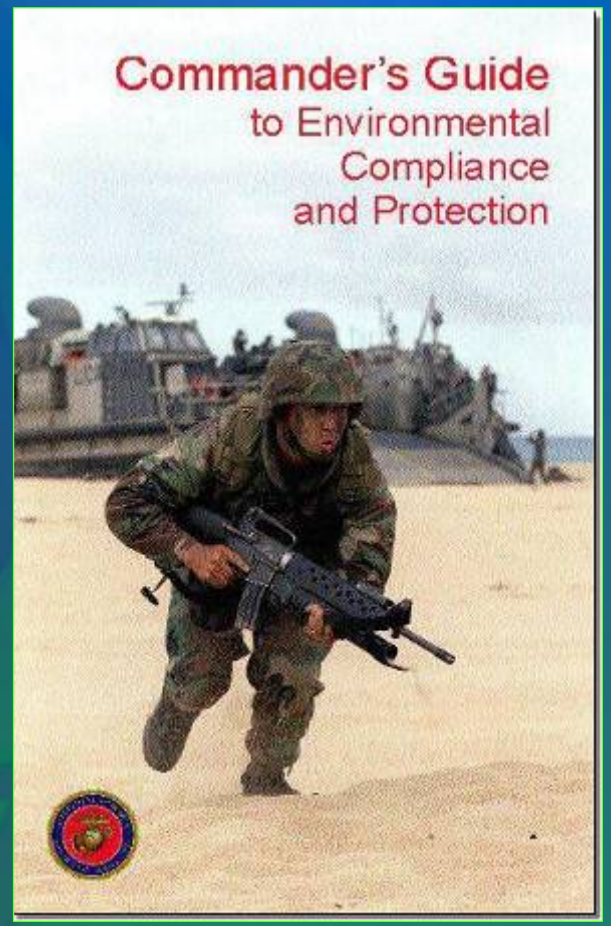
- To review the most common (and most often repeated) hazardous waste management violations
  - Specific to metal finishers, etc.
- Provide some tools to help you achieve and maintain compliance
- Provide you a forum to ask questions and get answers

Basic Compliance Requirements

HURRY!! Mike Vizzier is coming!
What's he gonna want to see?

- ? What do *YOU* think?

1. Wastes properly and timely identified
2. Containers and tanks labeled completely, accurately & legibly
   - Materials and wastes
3. Containers in good shape and closed tight



Basic Compliance Requirements

4. No goo or crud (liquid or solid) on the floors or in containment
5. Wastes shipped off in time
6. Inspections done weekly (and daily for tanks), done right and documented
7. Training current and documented
8. Emergency plan current

Basic Compliance Requirements

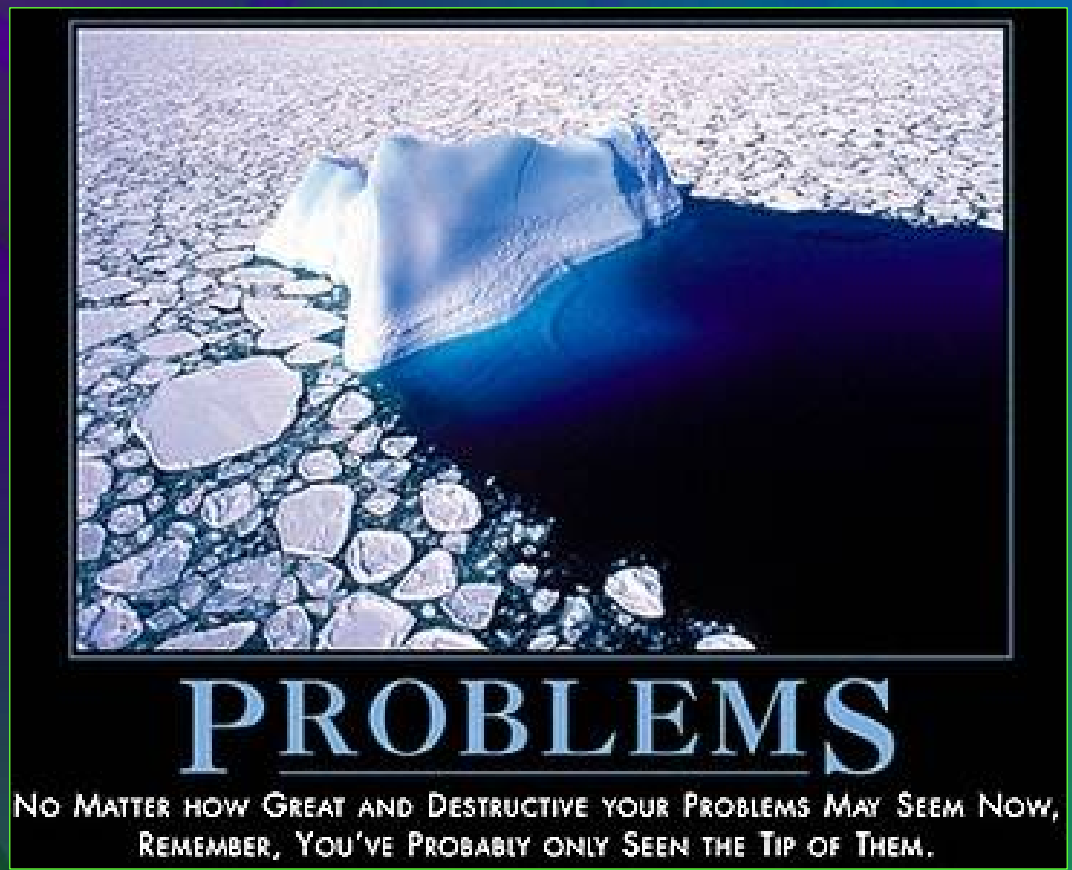
9. Waste holding & treatment tanks in adequate secondary containment
10. Waste holding & treatment tank systems certified by a P.E.
11. CUPA notifications and filings current
12. Shipping manifests completed properly and file copies complete
13. Facility managed & operated safely and to minimize release & fire risk

Rocket Science?

- Most basic compliance requirements fall into the realm of 'common sense'
- Often the violations observed are not just 'technical' or 'nitpicky' violations… but:
  - A ***basic*** requirement was carried out very poorly…
    - Obviously degraded, gooed out or leaking containers…
    - Blank or clearly unreadable labels, etc.
    - Training or other documentation not up to date
  - Not carried out at all!
    - e.g. no secondary containment… no training conducted at all
    - Not determining whether something is a regulated waste… leaving liquids collecting in containment

YOU'RE the Inspector…

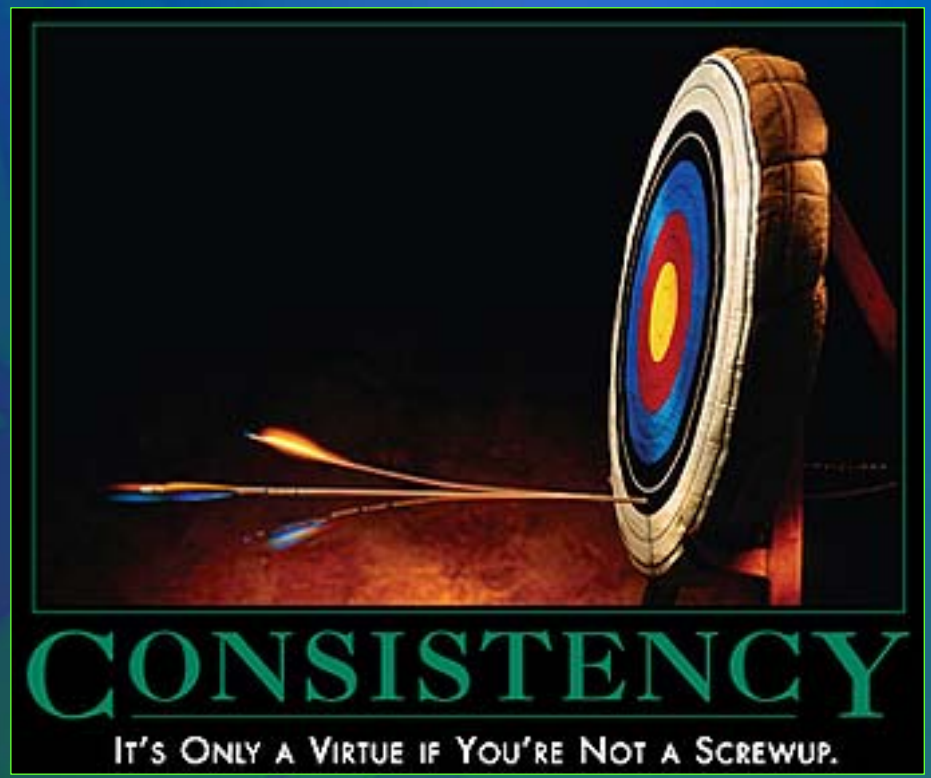
- Of all the many various compliance requirements… what do YOU think are the most common violations?



So… Why do YOU think violations happen?

… or happen repeatedly?

- Not understanding requirements
- Insufficient training
- Not taking requirements seriously
- Not assigning responsibility
- Not properly prioritizing
- Resource limitations
- Lack of inspections or oversight
- Forgetting



First Things First

- **Assure that a *system* is in place to at least make an effort to meet requirements**
  - A little forethought, training, scheduling, verification and oversight goes a long way
  - **Then worry about the details and specifics**
- **May not prevent a NOV or an AEO…**
  - **Some requirements ARE quite detailed and proscriptive**
  - **But your HW management *will* be safer and more protective, & the magnitude of a violation likely will be less**

SECTION 5	TRAINING, CONTINGENCY PLAN & ER PROCEDURES
1-Is training program adequate and are records of training available?	☐YES ☐ NO
COMMENTS:_____	
The training program for your employees shall be designed to ensure that they are able to respond effectively to emergencies. This can be accomplished by familiarizing employees with emergency procedures, emergency equipment, and emergency systems. Keep training records onsite for review. For large quantity generators, be sure to document the type of training, the job title, and the job description for each position related to hazardous waste management as well as the name of the employee filling each job.	
2- Is spill control equipment available for use by employees?	☐YES ☐ NO
COMMENTS:_____	
Spill control equipment must be made available to employees so they can respond to a hazardous materials/waste spill.	
3- Is facility designed to minimize releases of hazardous wastes & materials?	☐YES ☐ NO
COMMENTS:_____	
Design your facility and process areas to prevent releases. Make safety and good housekeeping part of your daily activities. Ensure that hazardous waste containers are: protected from ignition sources; compatible with the wastes stored in them; and kept closed and in good repair. When possible, provide secondary containment for drums to catch any potential spills and prevent releases into the environment. Promptly clean up spilled materials from secondary containment area.	


9
4
8
1
The TOP
10
5
6
3
2
7

HAZARDOUS WASTE CONTAINERS & TANKS NOT LABELED OR INCORRECTLY LABELED

Tank and Container Labeling

- Tanks & containers must be clearly and legibly labeled as soon as ANY hazardous waste is accumulated

- Prepare labels first!

Tick tock…tick tock…tick tock…

Tank and Container Labeling

Tank and Container Labeling

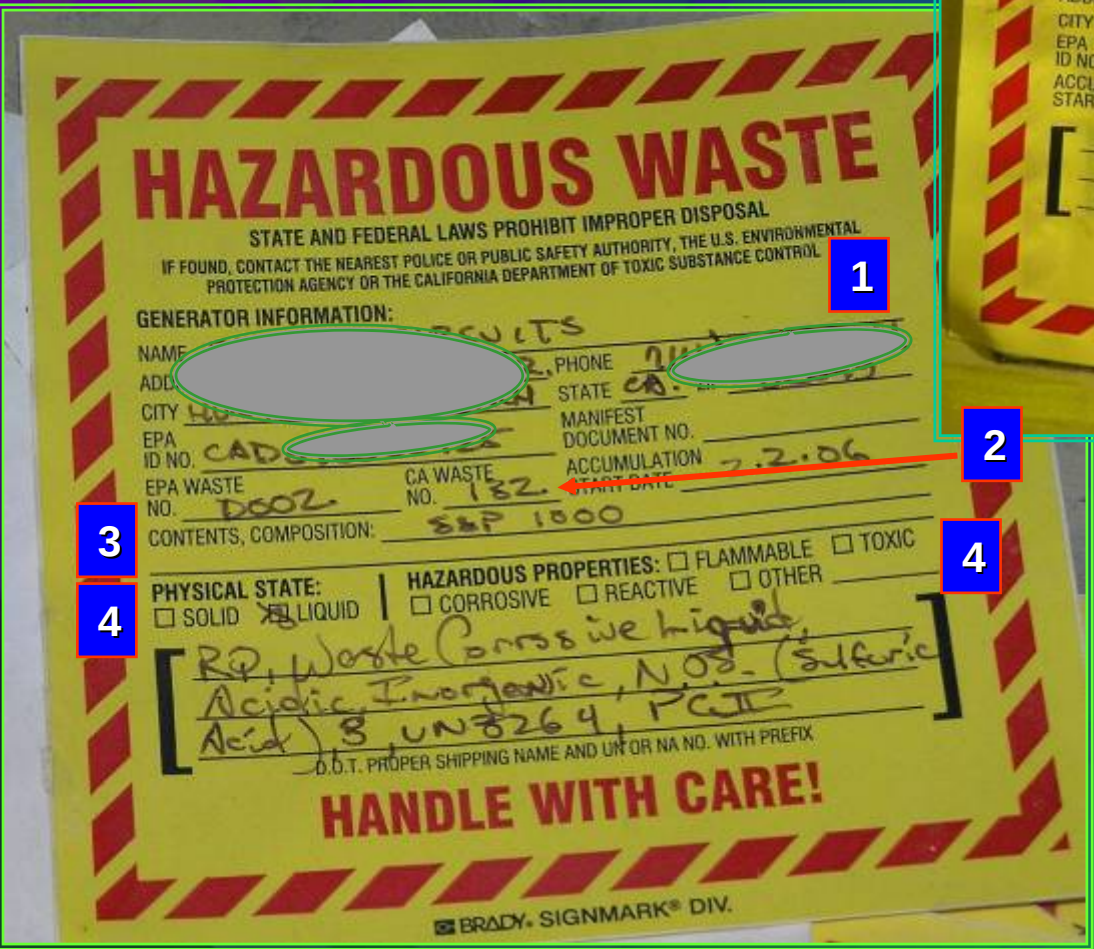
General hazardous waste labeling:

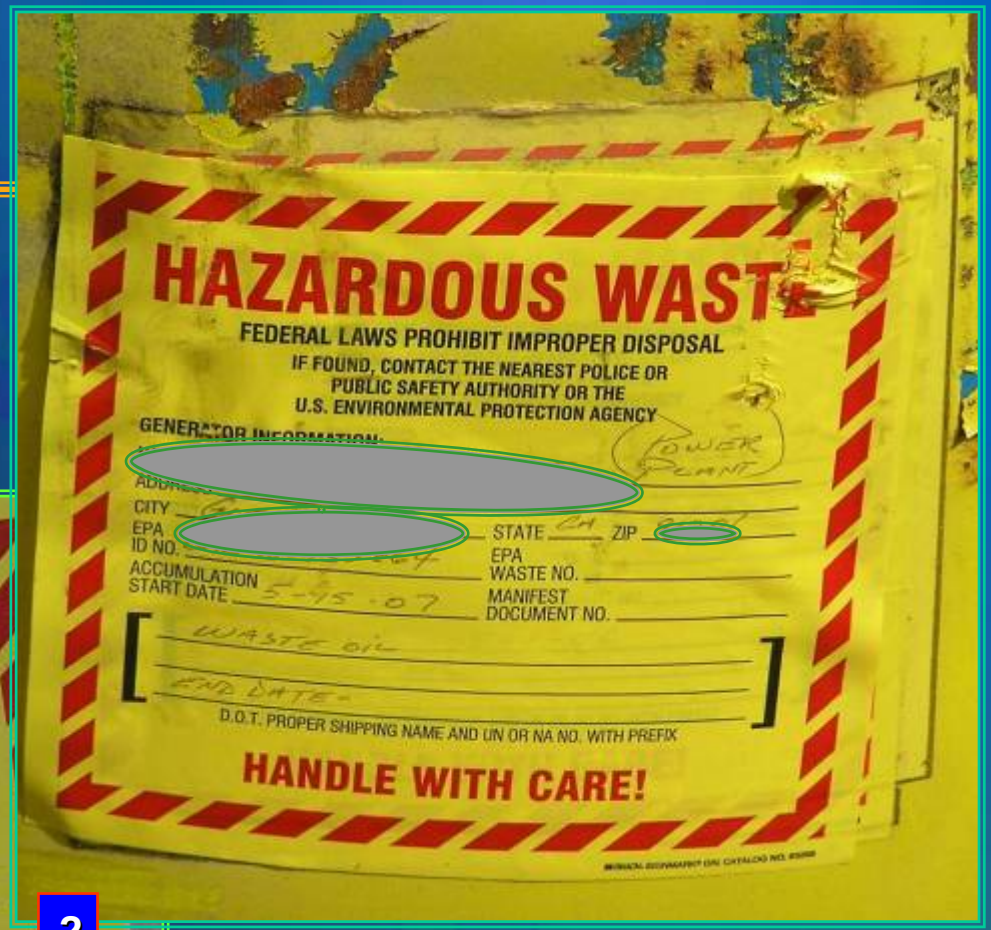
- **At the first drop:**
  - Name, address, EPA ID number, phone number of generator
  - Accumulation start date
  - CA & EPA waste codes
  - Contents
  - Hazards and physical state
  - Manifest # & DOT shipping name and hazard class, and DOT label *prior to transport*

- **No required label color or style: just make sure all info is present**

Calif. Labels!

1. Calif. DTSC wording
2. Calif. waste codes
3. Contents/composition
4. Hazards and physical state






DANGER !
HAZARDOUS
WASTE AREA
KEEP OUT !!!

F.T.U. C-2
Cyanide Destruction Tank
250 gal.
Second Stage
E.P.A. No. CAR000
nterprises

Accuracy counts!

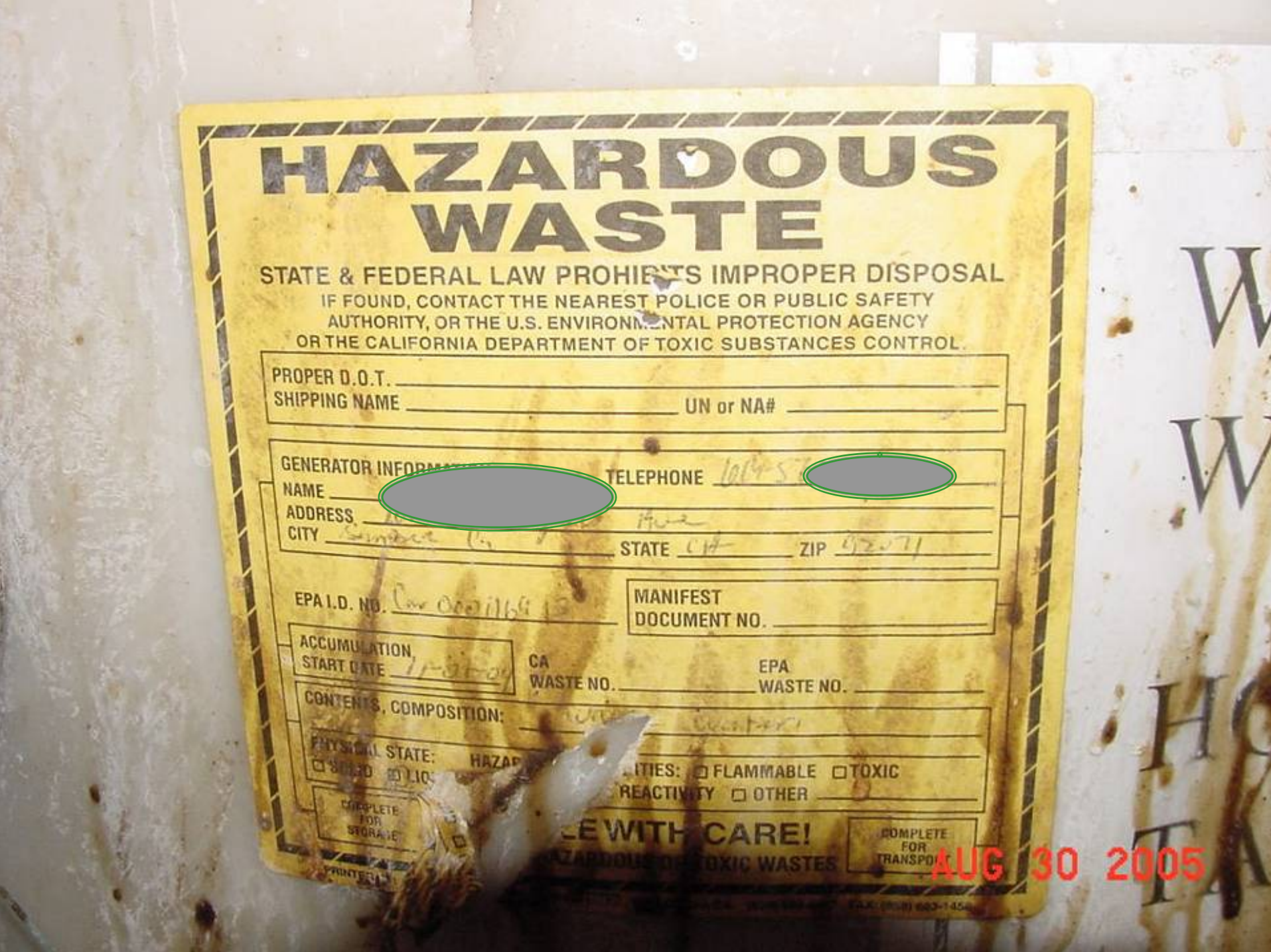
- "Sorbents from fuel spills"
- Uh…. Floating in jet fuel

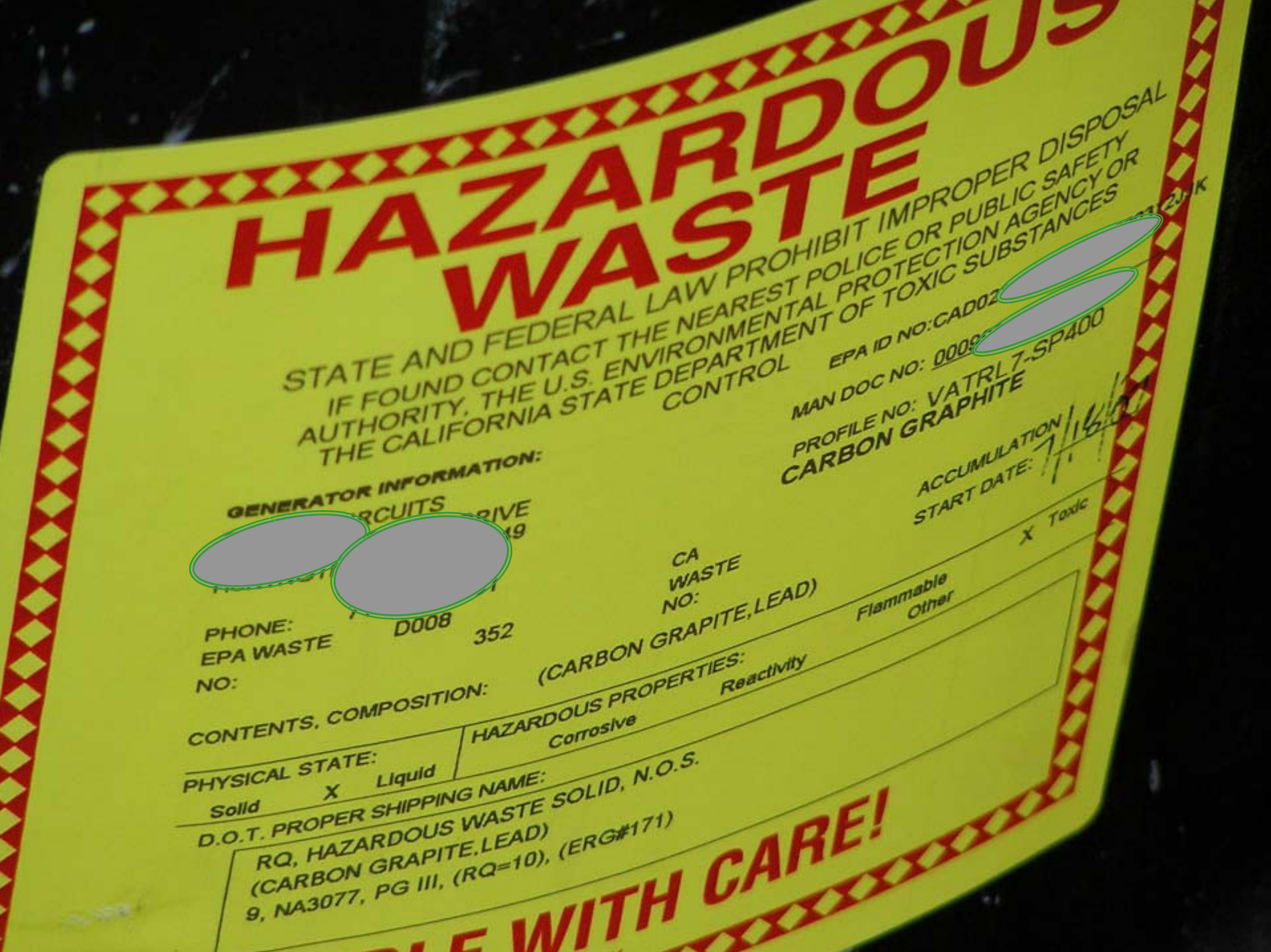
Bucket of hazardous waste in treatment area without labeling, pH was 0-1

Tanks of hazardous waste in treatment area had no labeling

400-gallon holding tank was nearly full of "zinc rinse water" according to the owner, but was not labeled as hazardous waste. This waste is shipped offsite as hazardous waste.

Hazardous waste label on tote as well as “empty container” label. Owner stated it was chem-film or yellow chromate rinse water.

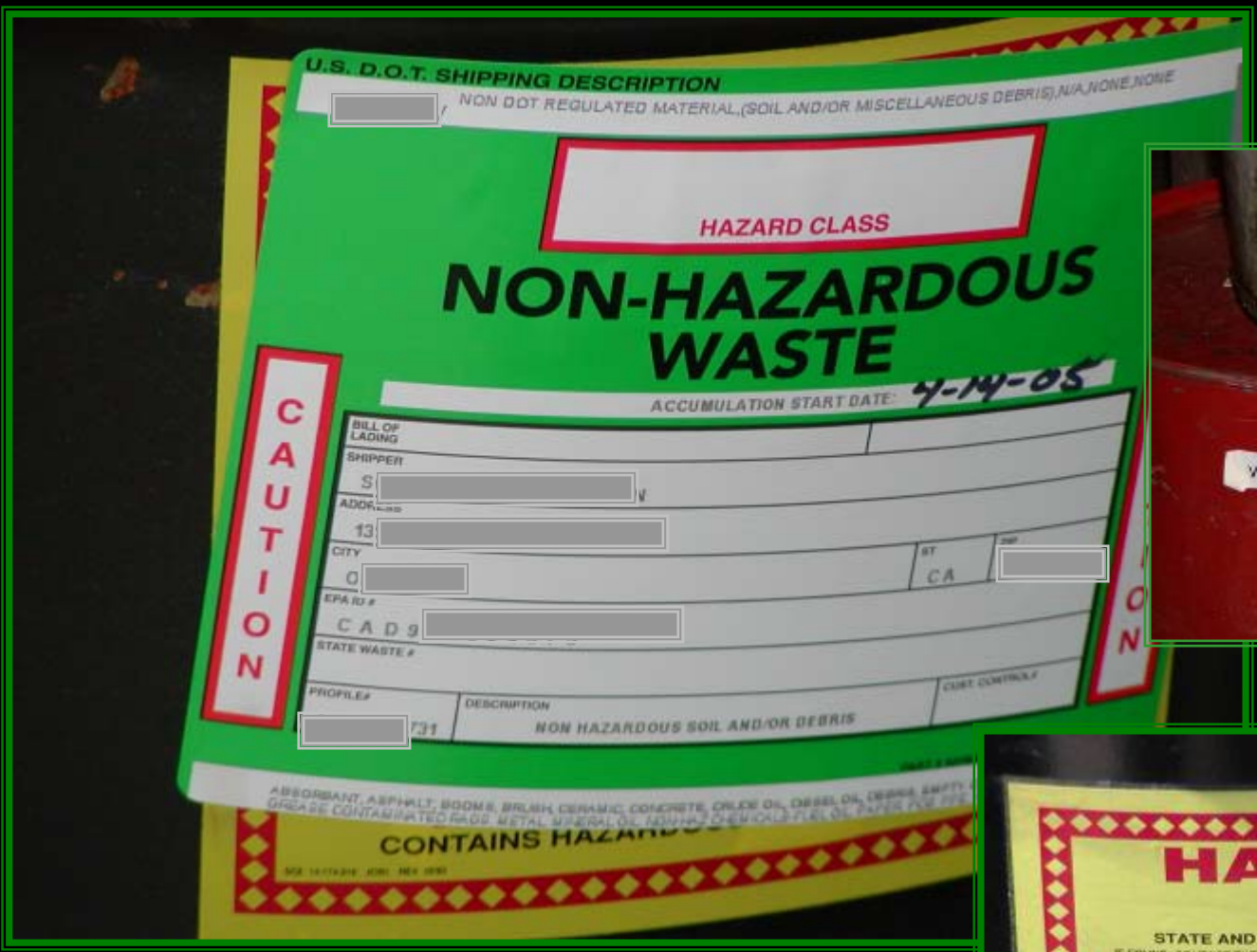

HAZARDOUS
WASTE
STATE & FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.
PROPER D.O.T.
SHIPPING NAME
UN or NA#
GENERATOR INFORMATION
NAME
TELEPHONE
ADDRESS
CITY
STATE
ZIP
EPA I.D. NO.
MANIFEST
DOCUMENT NO.
ACCUMULATION
START DATE
CA
WASTE NO.
EPA
WASTE NO.
CONTENTS, COMPOSITION:
PHYSICAL STATE:
ITIES: FLAMMABLE TOXIC
REACTIVITY OTHER
COMPLETE
FOR
STORAGE
E WITH CARE!
COMPLETE
FOR
TRANSPO
AUG 30 2005


HAZARDOUS WASTE
STATE AND FEDERAL LAW PROHIBIT IMPROPER DISPOSAL
IF FOUND CONTACT THE NEAREST POLICE OR PUBLIC SAFETY
AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR
THE CALIFORNIA STATE DEPARTMENT OF TOXIC SUBSTANCES
CONTROL
EPA ID NO:CAD02
MAN DOC NO: 0009
PROFILE NO: VATRL7-SP400
CARBON GRAPHITE
ACCUMULATION
START DATE:
GENERATOR INFORMATION:
PHONE:
EPA WASTE NO:
D008
352
CA WASTE NO:
CONTENTS, COMPOSITION: (CARBON GRAPITE,LEAD)
PHYSICAL STATE:
Solid X Liquid
HAZARDOUS PROPERTIES:
Corrosive
Reactivity
Flammable
Other
X Toxic
D.O.T. PROPER SHIPPING NAME:
RQ, HAZARDOUS WASTE SOLID, N.O.S.
(CARBON GRAPITE,LEAD)
9, NA3077, PG III, (RQ=10), (ERG#171)
LE WITH CARE!

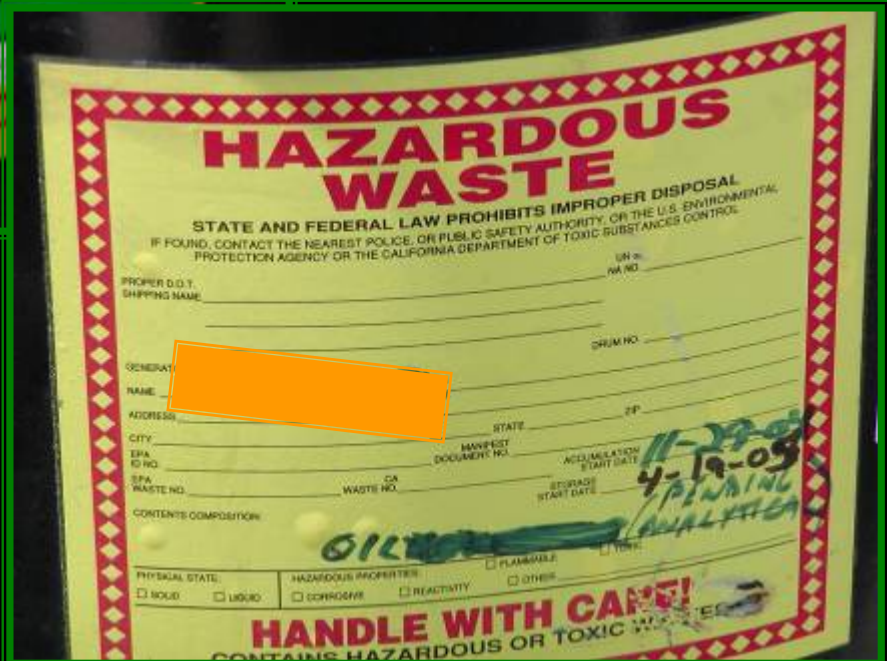
Shipping container in north east corner of facility with empty containers pending rinsing according to owner, not labeled as hazardous waste or "empty" with the date they were emptied

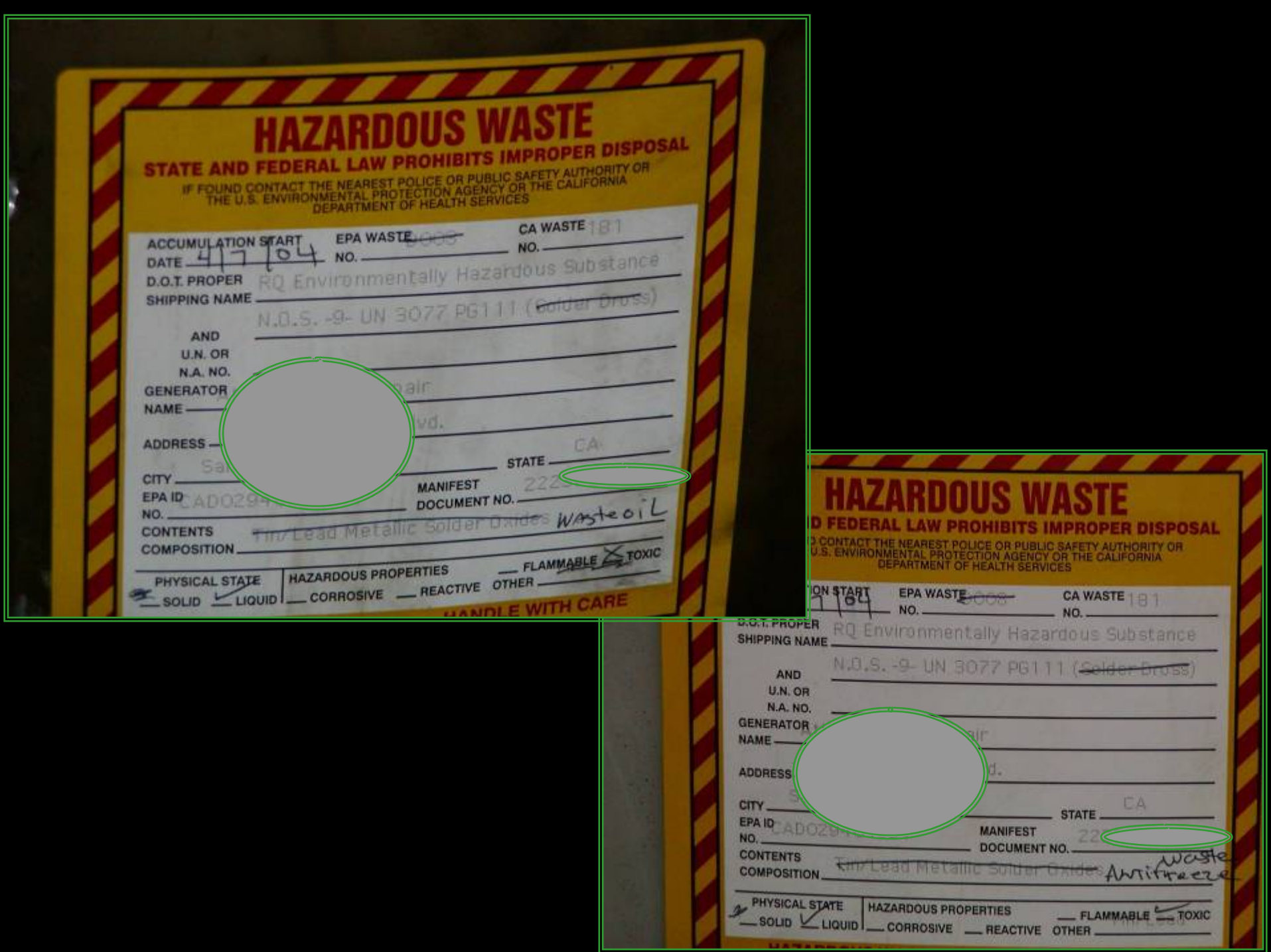

CYANOGRAN


CYANOGRAN
POISON


U.S. D.O.T. SHIPPING DESCRIPTION
NON DOT REGULATED MATERIAL,(SOIL AND/OR MISCELLANEOUS DEBRIS),NA,NONE,NONE
HAZARD CLASS
NON-HAZARDOUS WASTE
CAUTION
ACCUMULATION START DATE: 4-14-05
BILL OF LADING
SHIPPER
CITY
CA
EPA ID #
CAD9
STATE WASTE #
PROFILE#
DESCRIPTION
NON HAZARDOUS SOIL AND/OR DEBRIS
CONTAINS HAZARD


WASTE WATER-Some Oil #332 A VAC. PUMP


HAZARDOUS WASTE
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL
PROPER D.O.T. SHIPPING NAME
UN # / NA NO.
DRUM NO.
GENERATOR
NAME
ADDRESS
STATE
ZIP
CITY
MANIFEST DOCUMENT NO.
EPA ID NO.
ACCUMULATION START DATE
11-22-04
4-19-05
EPA WASTE NO.
CA WASTE NO.
STORAGE START DATE
CONTENTS COMPOSITION:
OIL
PHYSICAL STATE:
SOLID
LIQUID
HAZARDOUS PROPERTIES:
CORROSIVE
REACTIVITY
FLAMMABLE
TOXIC
OTHER
HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC



HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

ACCUMULATION START DATE 4/7/04

EPA WASTE NO. ~~D008~~

CA WASTE NO. 181

D.O.T. PROPER SHIPPING NAME RQ Environmentally Hazardous Substance

AND U.N. OR N.A. NO. N.O.S. -9- UN 3077 PG111 (~~Solder Dross~~)

GENERATOR NAME [redacted]air

ADDRESS [redacted]vd.

CITY [redacted] STATE CA

EPA ID NO. CAD029[redacted]

MANIFEST DOCUMENT NO. 222[redacted]

CONTENTS COMPOSITION ~~Tin/Lead Metallic Solder Oxides~~ Waste oil

PHYSICAL STATE: ~~X~~ SOLID ✓ LIQUID

HAZARDOUS PROPERTIES: __ CORROSIVE __ REACTIVE OTHER __ FLAMMABLE ~~X~~ TOXIC

HANDLE WITH CARE

HAZARDOUS WASTE

D FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

ON START 4/7/04

EPA WASTE NO. ~~D008~~

CA WASTE NO. 181

D.O.T. PROPER SHIPPING NAME RQ Environmentally Hazardous Substance

AND U.N. OR N.A. NO. N.O.S. -9- UN 3077 PG111 (~~Solder Dross~~)

GENERATOR NAME [redacted]air

ADDRESS [redacted]d.

CITY [redacted] STATE CA

EPA ID NO. CAD029[redacted]

MANIFEST DOCUMENT NO. 22[redacted]

CONTENTS COMPOSITION ~~Tin/Lead Metallic Solder Oxides~~ Waste Antifreeze

PHYSICAL STATE: ~~X~~ SOLID ✓ LIQUID

HAZARDOUS PROPERTIES: __ CORROSIVE __ REACTIVE OTHER __ FLAMMABLE ✓ TOXIC


CAUTION


HAZARDOUS
WASTE
HANDLE WITH CARE!


480 VOLTS
ON
OFF
HAZARDOUS WASTE
CORROSIVE

EXCLUDED RECYCLABLE MATERIAL

HANDLE WITH CARE!

GENERATOR INFORMATION:

Name _____ Phone _____

Address _____ State _____ Zip _____

City _____

Contents _____

Hazardous Properties (Check all that apply)

☑ Toxic ☐ Corrosive ☐ Ignitable ☐ Reactive

☐ Other _____

Waste Form

☐ Solid ☐ Liquid ☐ Gas

Sample Analysis # _____

Accumulation Start Date DAILY

ERM-1

HCL 800/421-6710

HAZARDOUS MATERIALS CONTAINERS & TANKS NOT LABELED

What do hazardous materials have to do with waste violations?

- **CHCS 25124: A waste is any discarded material that is not excluded**
  - **Discarded material:**
    - Relinquished by disposing; burning; incinerating;
    - Accumulated, stored or treated before recycling*
    - Poses a threat to health or the environment and
      - Not properly labeled (10 day limit)
      - Packaged in damaged/degraded containers (4 day limit)
    - Inherently waste-like
- ***These basic criteria are also specified in 22 CCR 66261.2***

*** Specific recycling exemptions in CHSC 25143.2**

Two trashcans were being used as rinse tanks and were not labeled. According to the owner, the trashcans were wastewater.


2
2
FIRST
WEAR


PROCESS-TANK
CAUTION
OILY WATER
IRRITANT
LIQUID
CAUTION
IRRITANT
CORROSIVE
LIQUIDS

Electroless Process Line

Tank Size 12WX36LX32H

Tank # SP- CT50 Electroless Copper

FIRST AID	
EYES:	FLUSH WITH WATER 15 MIN CALL PHYSICIAN
SKIN:	FLUSH WITH WATER 15 MIN CALL PHYSICIAN
INHALATION	FRESH AIR, OXYGEN
INGESTION	DO NOT INDUCE VOMITING, DRINK WATER, CALL PHYSICIAN
CARCINOGEN	YES

EMERGENCY: CALL CHEMTREC 1-800-424-9300

INCOMPATABILITY:

AVOID STRONG OXIDENTS , ACIDS

HAZARDS:
WILL CAUSE SEVERE BURNS

REFER TO MATERIAL SAFETY DATA SHEET

CORROSIVE LIQUID

COMPOSITION 6

Electroless 22A	5.5 GALLONS
Electroless 22B 6	5.5 GALLONS
D I WATER	44 GALLONS

TIME 30 MINUTES ± 5 Mins

TEMPERATURE 75F ±5F

pH
10-12

ANALYSIS FREQ. DAILY

DATE OF LAST MAKE UP
6-18-07

VENDOR MAC DERMID INC.


'95 10 11

Soda ash was observed on the floor in small amounts around a tray where the used, but still good material (according to the owner), is being collected.


AUG 30 2005


Roplate
ALL PURPOSE
USG
JOINT COMPOUND
NEUTRA RINSE 40
NICKEL PURIFIER
Refecta

Labeling is Good

- But you gotta READ the labels & understand what they mean

HAZARDOUS WASTE CONTAINERS NOT KEPT CLOSED


HAZARDOUS WASTE
HAZARDOUS WASTE


POLY-FUNNEL
VISCOR
CALIBRATION FLUID


HAZARDOUS WASTE


SATELLITE ACCUMULATION AREA
FOR USE BY
OPERATIONS
AND
MAINTENANCE
ONLY
HAZARDOUS
WASTE


DOORS - TO - REMAIN
CLOSED
IF - NOT - IN
USE


HAZARDOUS
WASTE


SPENT AEROSOL CANS ONLY
HAZARDOUS
WASTE


HAZARDOUS WASTE

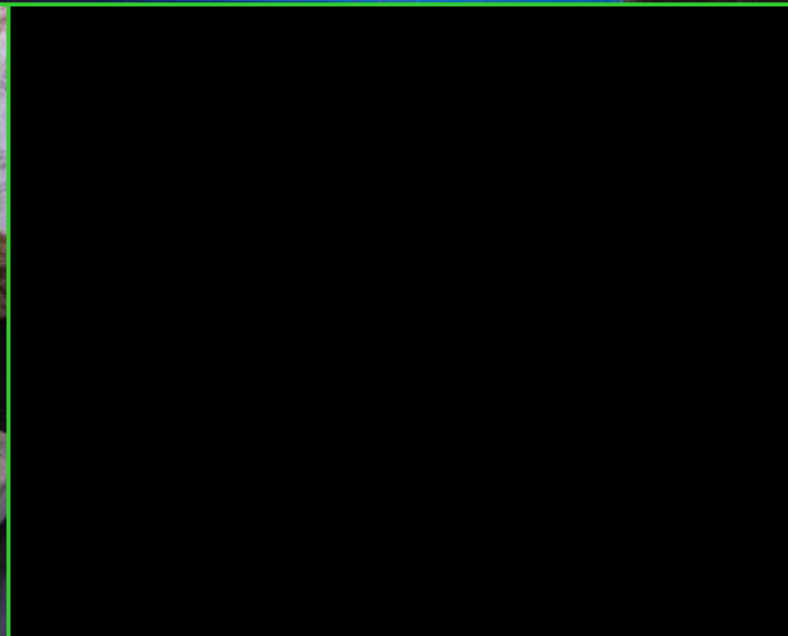

ADENNA
EMPTY


HAZARDOUS WASTE
HANDLE WITH CARE!
CORROSIVE
8


EP 2
11HG/Y
+BD03
HAZARDOUS


NOTICE
CHEMICAL HAZARD
DANGER
HAZARDOUS
WASTE


31 11:10AM



In the back lot, used resin beads from ion exchange for chromium removal, open and unlabeled.

HAZARDOUS WASTE STORED IN EXCESS OF ALLOWABLE TIME

Accumulation Time Limits

- Clock start depends on generation rate
  - < 100 kg/mo: Accumulation clock begins upon reaching 100 kg.
    - < 1 kg EHW: Begins at 1 kg.
  - ≥ 100 kg/mo: Begins at first drop/piece
    - ≥ 1 kg EHW: At first drop/piece
- LQG = 90 days
- SQG = 180 or 270 days (if TSDF > 200 mi)
- 'Satellite' accumulation is an 'initial' work area clock
  - Storage accumulation clock begins once 55 gallons is accumulated in SAA

ZIP 9[redacted]

LATION
RT DATE 4/6/00

HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBIT IMPROPER DISPOSAL.
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.

GENERATOR INFORMATION:

NAME ATT [redacted] VD. PHONE [redacted] 6185

ADDRESS [redacted] STATE CA ZIP [redacted] 03

CITY SA[redacted]

EPA ID NO. / MANIFEST DOCUMENT NO. CAD 029[redacted] /

EPA WASTE NO. D008 CA WASTE NO. 181 ACCUMULATION START DATE

CONTENTS, COMPOSITION: FILTERCAKE

PHYSICAL STATE: ☑ SOLID ☐ LIQUID

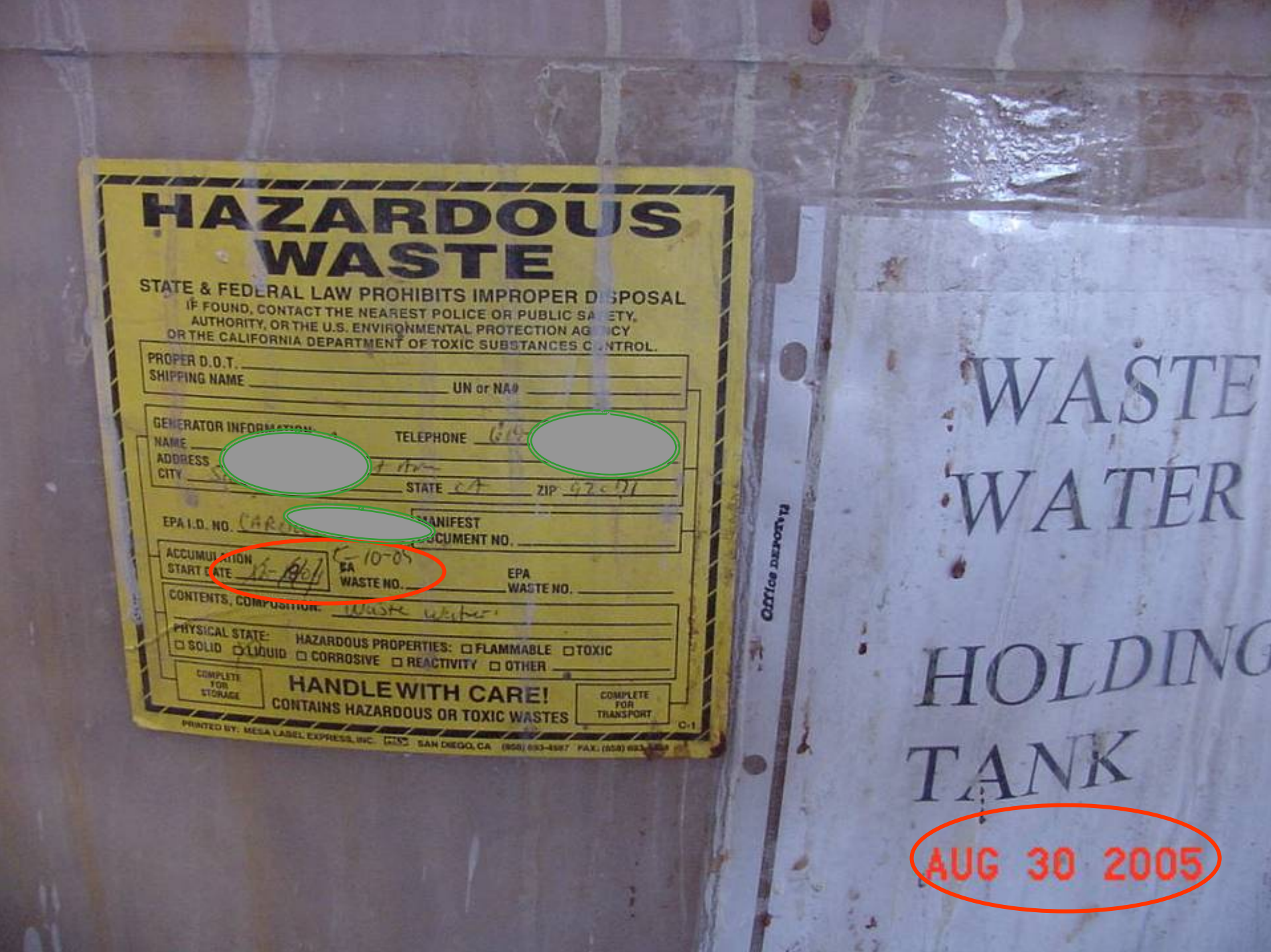
HAZARDOUS PROPERTIES: ☐ CORROSIVE ☐ REACTIVITY ☐ FLAMMABLE ☐ OTHER ☑ TOXIC

RQ Hazardous waste, solid, n.o.s., (LEAD)
9, NA3077, PG III, (D008)
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

HANDLE WITH CARE!

STYLE CFWMCA8

INFOTRAC/HMC 1-800-468-1263


HAZARDOUS WASTE
STATE & FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.
PROPER D.O.T. SHIPPING NAME
UN or NA#
GENERATOR INFORMATION
NAME
TELEPHONE
ADDRESS
CITY
STATE CA
ZIP
EPA I.D. NO.
MANIFEST DOCUMENT NO.
ACCUMULATION START DATE
EPA WASTE NO.
EPA WASTE NO.
CONTENTS, COMPOSITION: Waste water
PHYSICAL STATE: ☐ SOLID ☐ LIQUID
HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☐ TOXIC ☐ CORROSIVE ☐ REACTIVITY ☐ OTHER
COMPLETE FOR STORAGE
HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES
COMPLETE FOR TRANSPORT
C-1
PRINTED BY: MESA LABEL EXPRESS, INC. SAN DIEGO, CA
WASTE
WATER
HOLDING
TANK
AUG 30 2005

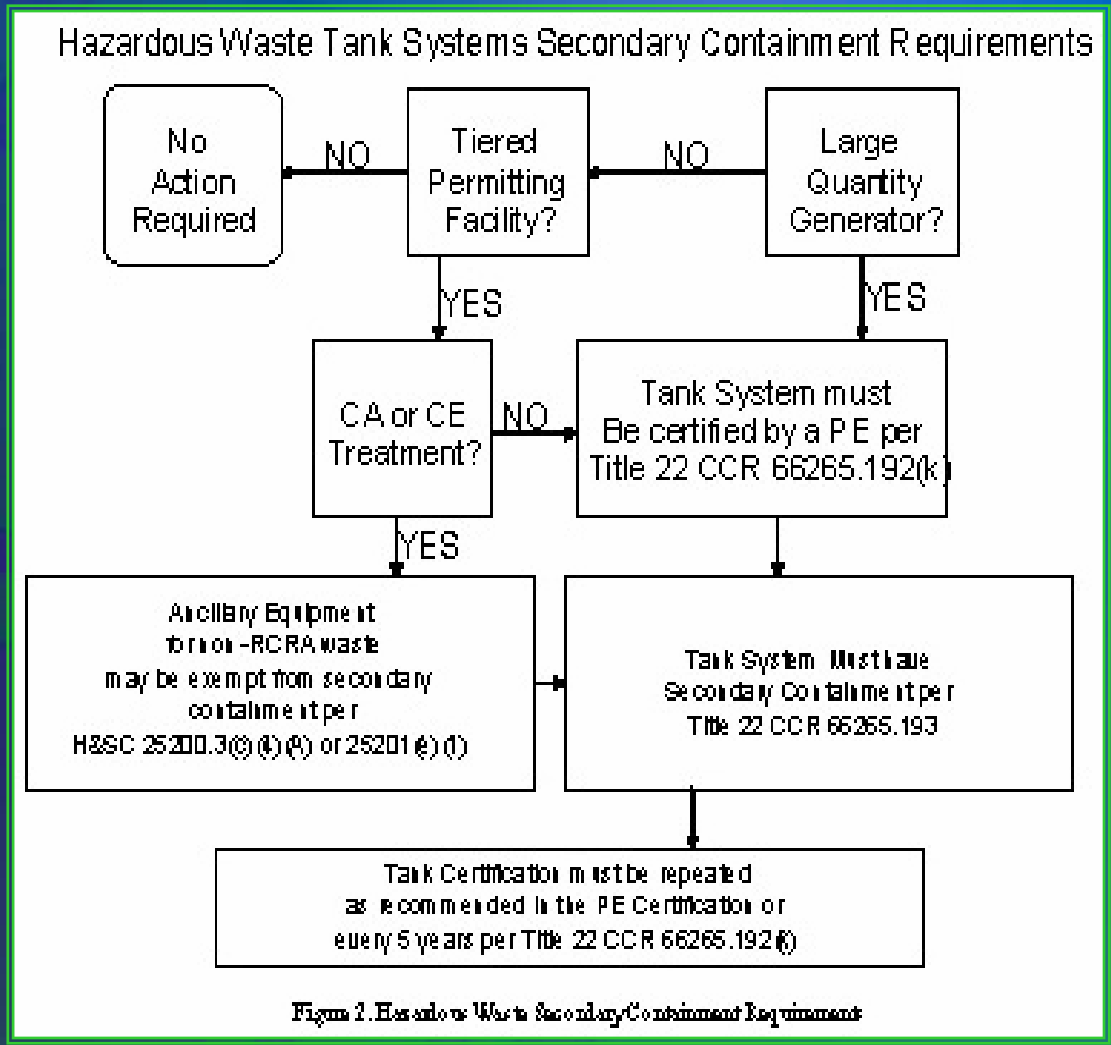
NO (or inadequate) SECONDARY CONTAINMENT FOR HAZARDOUS WASTE TANKS

Hazardous Waste Tank Systems

- If a LQG, or treating under Conditional Authorization or Permit-by-Rule:
  - Secondary containment required
  - Written assessment and certification of the tank system by an independent, qualified PE required
    - More later

Secondary Containment

- Virtually all tank systems require secondary containment
  - Historically-certain exemptions based on date the tank system was installed & type of waste in the tanks: Exemptions expired July 2006



Secondary Containment

- Purpose of secondary containment for aboveground hazardous waste tanks (and tank systems)?
  - To *detect* and *collect* any releases – to put an extra barrier between hazardous waste and the environment
  - NOT as a waste accumulation or storage means

- 110 % of the volume of the largest vessel
  - Plus 24 hours of 25 year storm if unprotected
  - 20 minutes of full sprinkler flow if sprinklered


240 VOLTS
COMPANY
CAUTION


SPERRY


HOLDING-TANK


CORROSIVE

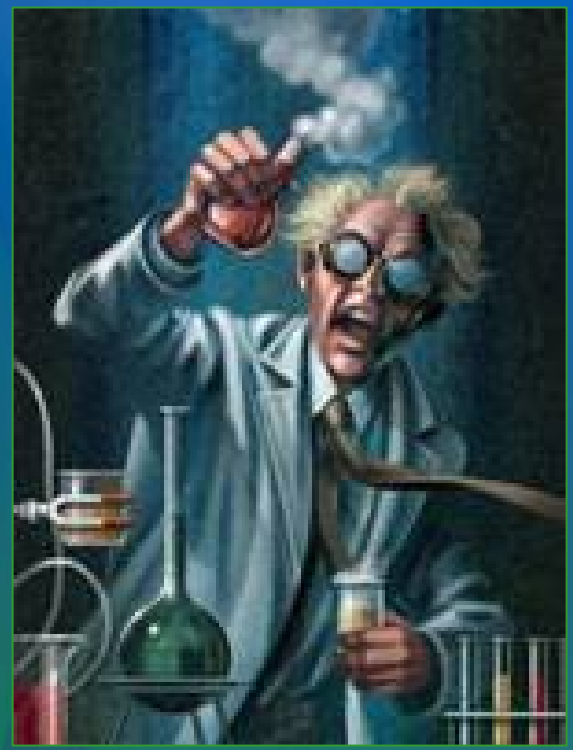

Tank

Catch tray under west-most etcher held a small amount of ferric chloride and water solution. According to the owner, this is occasionally pumped out when deep enough.

FAILURE TO NOTIFY CUPA OF TREATMENT ACTIVITIES

On-Site Treatment

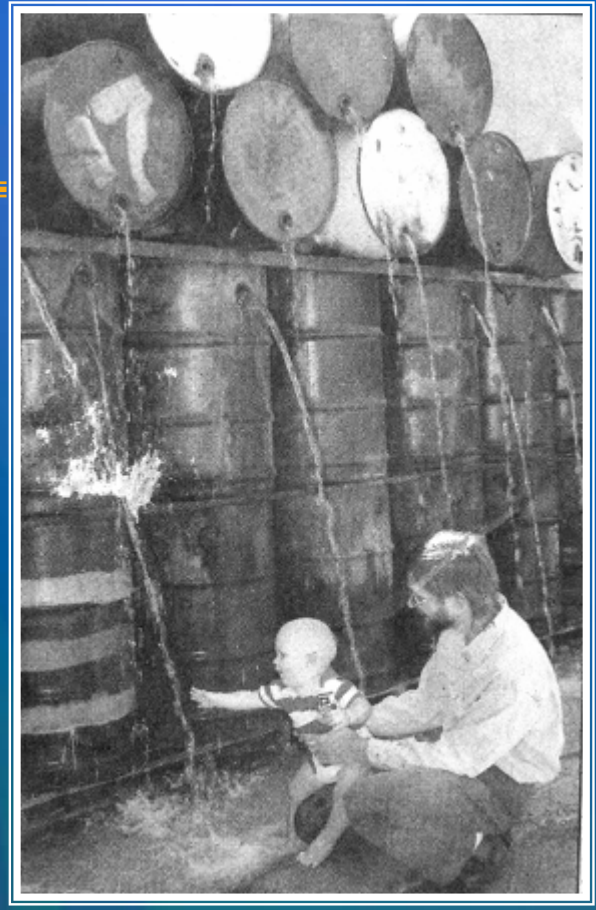
- If you change the chemical, physical, biological character or characteristics of a hazardous waste:
  - You've been treating!
  - And you likely fall under *Tiered Permitting*



- Anything from oil/water separation to neutralizing to evaporating to filtering…
  - *Many* exclusions and conditions
  - Many specific requirements

Is It Treatement?

- Need to be familiar with two statutory definitions
  - HSC §25123.5
    - Designed to change the physical, chemical or biological character or composition of any hazardous waste of material contained therein, or which reduces its harmful properties or characteristics for any purpose.
  - HSC §25179.2(e)
    - Method, technique or process that changes the physical, chemical or biological character or composition of any hazardous waste and, by that change, the waste becomes non-hazardous, significantly less hazardous, or more suitable for land disposal because of removal or reduction of undesirable properties.



Uncle Steve teaches his nephew proper sampling techniques

Treatment or Not?

- Shredding
- Filtering
- Flocculating
- Precipitating
- Neutralizing
- Electrowinning
- Pouring
- Sieving
- Ion exchange
- Drying via heating
- Solar drying (passive)
- Gravity separation
- Crushing
- Adsorption
- Evaporation
- Absorption
- Biological degradation
- Drum rinsing

Statutory or Regulatory Treatment (permit/tiered permit) Exemptions

- Filtering liquids to remove solid fractions without adding head, chemicals or pressure when adding to a storage tank or drum
- Phase separation without adding heat or chemicals (must occur in tanks or containers during accumulation)
- Evaporation of water without adding heat, chemicals or pressure (heat does not include sunlight or ambient input)
- Solidification performed disposal container
- Process (not HW) equipment decontamination/cleaning
- Acid/base neutralization at food processing or biotech facilities
- Demineralizer acid/base neutralization

Treatment Exemptions

- Silver and silver halide removal/recycling
- Combining/consolidating >2 wastestreams if no Tx benefit occurs
- Passive phase separation
- Aerosol cans
- Bench-top/lab treatment
- Oil & fuel filter draining or crushing
- On site treatment WITH on site reuse of the majority of the volume that was treated
- BUT!! Any other chemical, physical or biological change IS considered regulated treatment… and Tired Permitting kicks in!

In the back lot, drying sludge from garnet cutting machine, and dried garnet material open and unlabeled.

rinsing the piece after acid bath

Forms, Forms, Forms

UP Onsite Hazardous Waste Treatment Notification
Facility Page (just one)

UP Onsite Hazardous Waste Treatment Notification
Unit Page (one per 'unit')

UP Onsite Hazardous Waste Treatment Notification
CE, CA &/or PBR Page(s)
(as many as needed)

UP Onsite Hazardous Waste Treatment Notification
Certification of Financial Assurance
(just one – but only needed for CA & PBR)

Complete TP Application Package

HEY, HEY, HEY!! What about?

Process flow diagrams, plot plans, waste analyses, wastewater discharge records & permit, flow rate documentation, etc. etc.

FORMS!!

- Submit 60 days before operating a 'new' TP facility
  - Or if at a different tier
- Amendments (w/in 30 days) if
  - Facility name or wastestream changes
  - Treatment quantity increases > 25%
- Annual PBR submissions
- The forms are not just an exercise in checking boxes!
  - The forms and their instructions contain important compliance and submittal requirements!

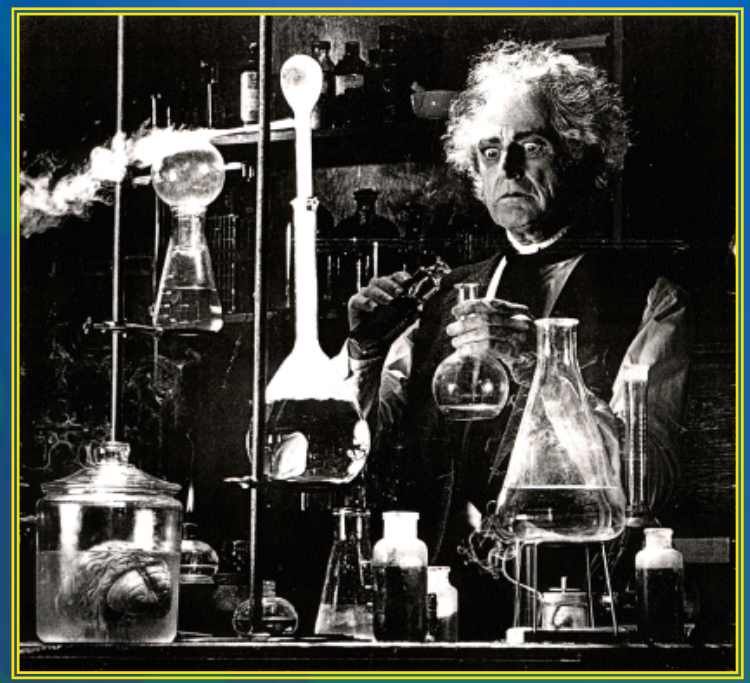
MISSING OR INADEQUATE WASTE ANALYSIS PLAN

(for PBR facilities)

Note: *NOT* an actual test method

Waste Determination Methods for the Generator

- Analysis by a Calif. DTSC Certified Laboratory
- Knowledge of the materials and hazards
- Knowledge of the waste generating process
  - Knowledge should be objective, documented and defensible



- *PBR TP facilities must have and follow a written* Waste Analysis Plan for the wastes they treat

PBR Waste Analysis Plans

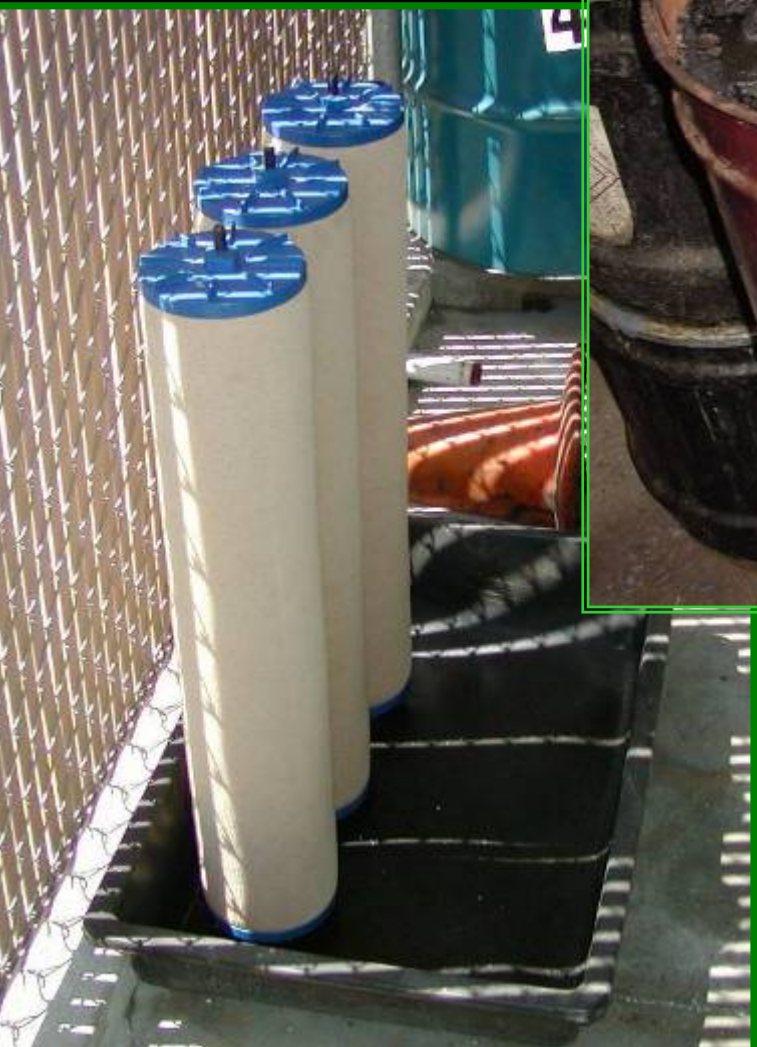
- For each hazardous waste treated:
  - Analytical parameters
  - Rationale
  - Test methods
  - Sampling & sample management methods
  - Frequency of analysis
- Must follow the Plan and keep records/documentation

Unlabeled tank between powder coat booths held water for use in the ion exchange system according to the facility owner. He could not state exactly what was in the "water." When asked if it contained diatomacious earth he said "yes."

FACILITY NOT MAINTAINED, OPERATED, etc. TO MINIMIZE RISK OF SPILLS, RELEASES, FIRES, EXPLOSIONS

Prevention & Preparedness

- Facilities must be designed and operated to minimize risks of fires, explosions and releases
  - A general performance standard: A violation if you had a reasonably preventable emergency or spill?
  - Don't forget Fire Code, Cal/OSHA, SPCC, SWPPP, UBC, etc.
- Required facility emergency equipment:
  - Phones, alarms and communication equipment (internal & external)
  - Spill control and decontamination equipment
  - Fire fighting water supply or systems
  - All must be tested and maintained regularly
  - Communication equipment immediately available




OXIDIZER
OXIDIZER
TOXIC
CORROSIVE
CORROSIVE
CHROMIC ACID
FLAKES
STOPPANI

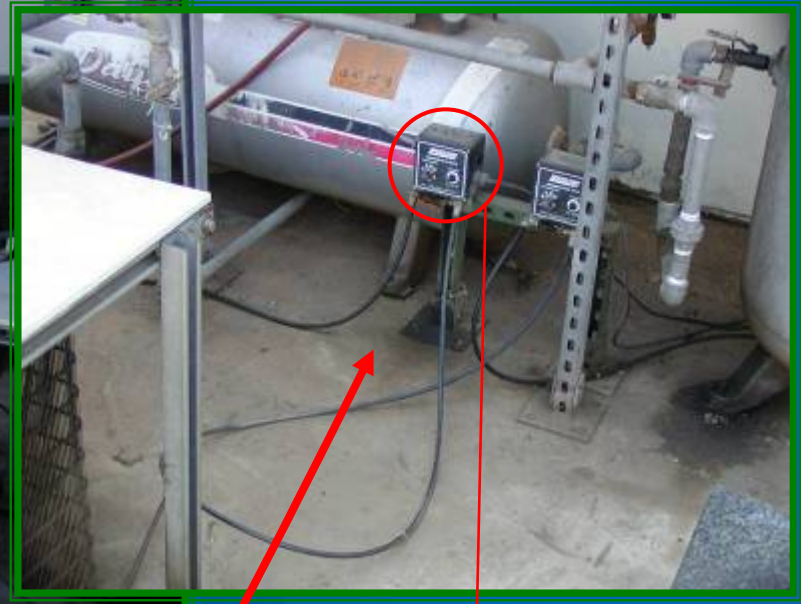

HAZARDOUS
WASTE

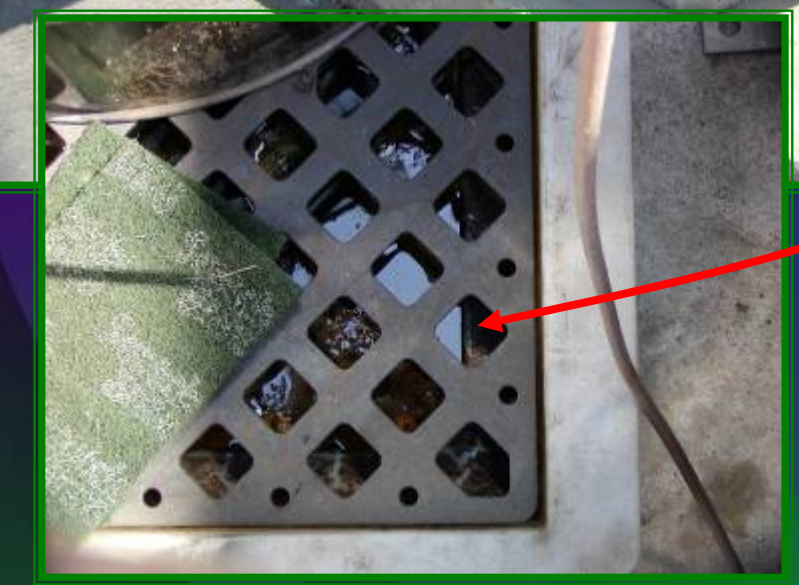

WASTE OIL
ONLY
HAZARDOUS WASTE
WASTE OIL
ONLY
HAZARDOUS WAST
HANDLE WITH CARE!


#2

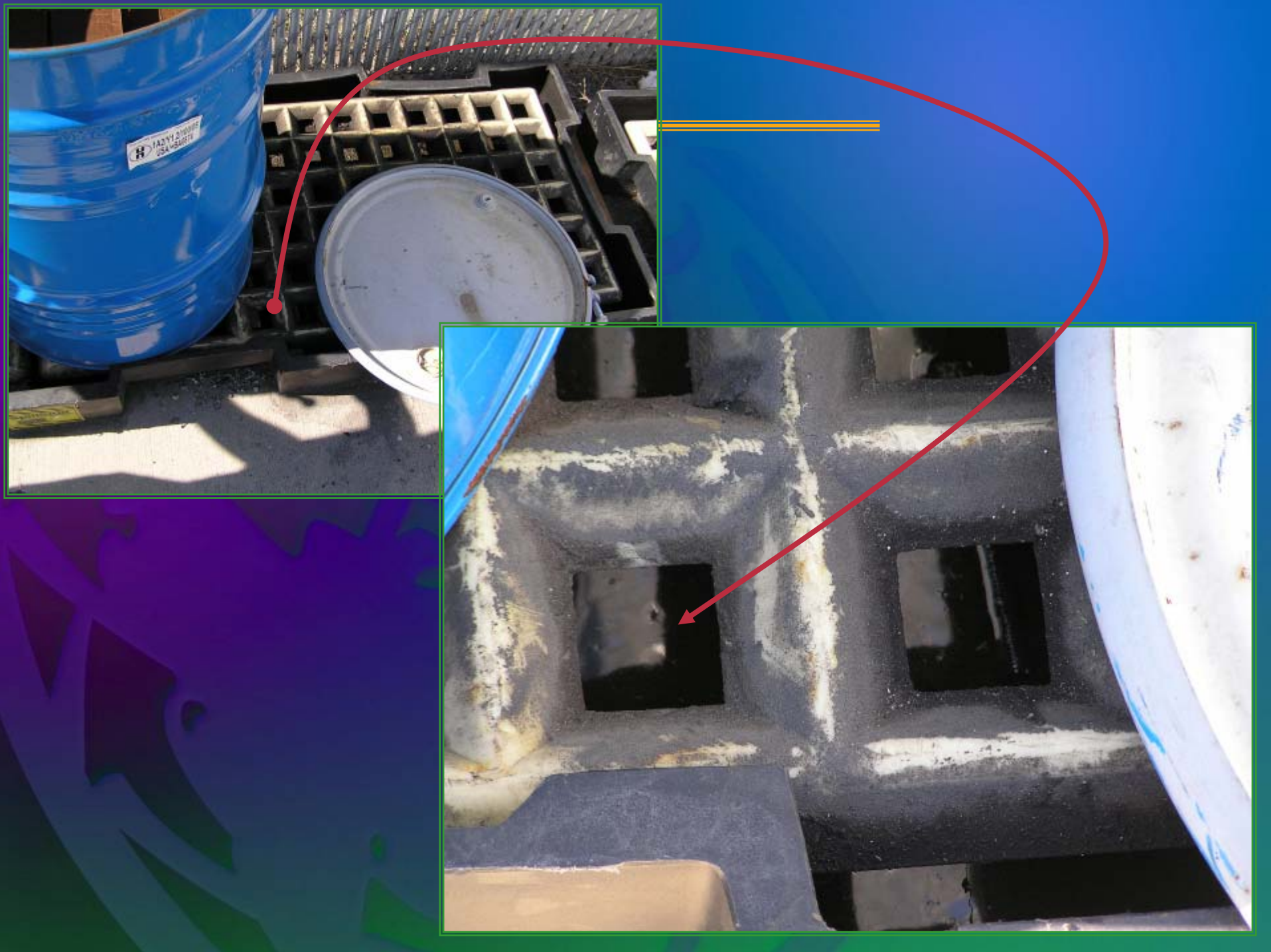

CLR
#2

Hazardous waste label on acetone/paint waste drum was dated 5-2505 and showed no hazardous properties or physical state. This flammable waste was not grounded.






SPEEDAIRE
Automatic Drain Valve
Drain Cycle Time
4
6
2
8
10
MIN.
10
Test Button
PUSH AND HOLD
FOR 1 SECOND
MANUFACTURED FOR DAYTON ELECTRIC MFG. CO.




Stop!
Stop Filling Barrel
WHEN This Pops up
BARREL IS FULL
HAZARDOUS
WASTE


DRAINED USED OIL


WASTE ANTI-FREEZE


HAZARDOUS WASTE


WASTE ONLY


GROUND CABLE
OIL
ABSORBOS
632


AIRVOL
8 '98


type dp
extended
OCT 11 2004


DRUM
Level
HAZARDOUS
HANDLE WITH CARE


CAUTION


CAUTION
HAZARDOUS WASTE
CAUTION


VALULINER$ FOR DRUMS


ENPAC
CORPORATION
POLY-SPILLPALLET 2000
PART NO. 5253-YE
53.5" X 29" X 17"
WEIGHT: 63 LBS.
CAPACITY: 58 GAL.
EPA 40 CFR 264.175
LOAD BEARING CAPACITY: 2000 LBS. UDL
PATENT PENDING
TARIMA POLY-SPILL 2000
PIEZA NO. 5253-YE
53.5" X 29" X 17"
PESO: 63 LBS.
CAPACIDAD: 58 GAL.
EPA 40 CFR 264.175
CAPACIDAD DE SOPORTAR CARGA: 2000 LBS. UDL
PATENTE PENDIENTE


EMERGENCY
RESPONSE
ONLY


Spill Kit
& Salvage Drum
1-800-HOT-HOGS


LAKELAND


EMERGENCY EYE
WASH STATION


BLANKET
PUSH
TO OPERATE

PRIMARY EMERGENCY RESPONSE COORDINATOR:
Extension 2412. Home - contact Security at 2651.

SECONDARY EMERGENCY RESPONSE COORDINATOR:
Extension 2702. Home - contact Security at 2651.

LOCATION OF FIRE EXTINGUISHERS, ALARMS, & SPILL CONTROL EQUIPMENT:
See Map

FOR EMERGENCIES DIAL:
Extension 2911
(rings Human Resources and Security simultaneously)

1. In the event of a fire: dial 2911, notify others to evacuate the area. Do not attempt to extinguish the fire if you have not been trained.
2. In the event of a large spill: dial 2911 and report location, amount, chemical, injuries, notify others to evacuate the area. Respond only to level of training received.

In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must notify the National Response Center at 800-424-8802 (24-hour, toll free).

Include the following information:

1. *Name and address of generator (company);*
2. *EPA ID #; CADO;*
3. *Date, time, and type of incident (spill, fire);*
4. *Extent of injuries, if any; and*
5. *Estimated quantity and disposition of recovered materials, if any.*

Document the call (time, date, who you spoke with, what information was given).

Provide the Health, Safety & Environmental Quality Department with a copy of the documentation.

Contingency Plan Updates

- The contingency plan must be reviewed, and immediately amended, if necessary, whenever:
  - The plan fails in an emergency,
  - The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency,
  - The list of emergency coordinators changes,
  - The list of emergency equipment changes.

Illegal Storage or *DISPOSAL* !?!?

- Failure to control, contain, cleanup and dispose of properly… and all releases of hazardous waste
- Discharge without a permit
- Storage, treatment or disposal without a permit… including
  - Exceeding on site accumulation time limits
  - Receiving HW from another EPA ID #

Hazardous waste accumulating on floor in front of hazardous waste tanks. The spilled waste, which was not cleaned up when spilled, has dried on the floor.


MAY 16 2002

Hazardous waste accumulating on floor on south end of plating line. The spilled waste, which was not cleaned up when spilled, has dried on the floor.

Floor of etching area was stained with ferric chloride, but was not accumulating soda ash used to neutralize ferric chloride.

Training
(sometimes in the Top Ten)

Employee Training

- Another very common violation
  - And a root of other violations
- Annual training required for facility personnel
  - "To ensure facility compliance"
    - All who handle wastes?
    - Supervisors?
  - Training must be 'reviewed'/refreshed annually…
- Instruction in procedures relevant to their waste-related job duties:
  - Waste handling procedures
  - Emergency procedures
  - Emergency equipment use
  - Other?

Employee Training

Employee Training Program Documentation

- **Written job description, title, & name**
  - Minimum required by regs
- **Should document the presence, adequacy and management of a proper RCRA training *program:***
  - Not just have records of employee training
  - **Training Program description**
  - **Training Course(s) description**
  - **Training Course(s) materials**
  - **Instructor qualifications**
- **Records of adequate/effective employee training**

Beware the sign-in sheet...make *sure* the training program is *complete, accepted, credible and effective*

TRAINING RECORD

Employee Name: _____

Job Title: _____ Hire Date: _____ Termination Date: _____

Each employee MUST be trained within 6 months of hire and yearly afterwards

Training records must be kept at least 3 years after termination.

Job Description (i.e. specific waste handling duties):

_____

_____

_____

_____

_____

_____

_____

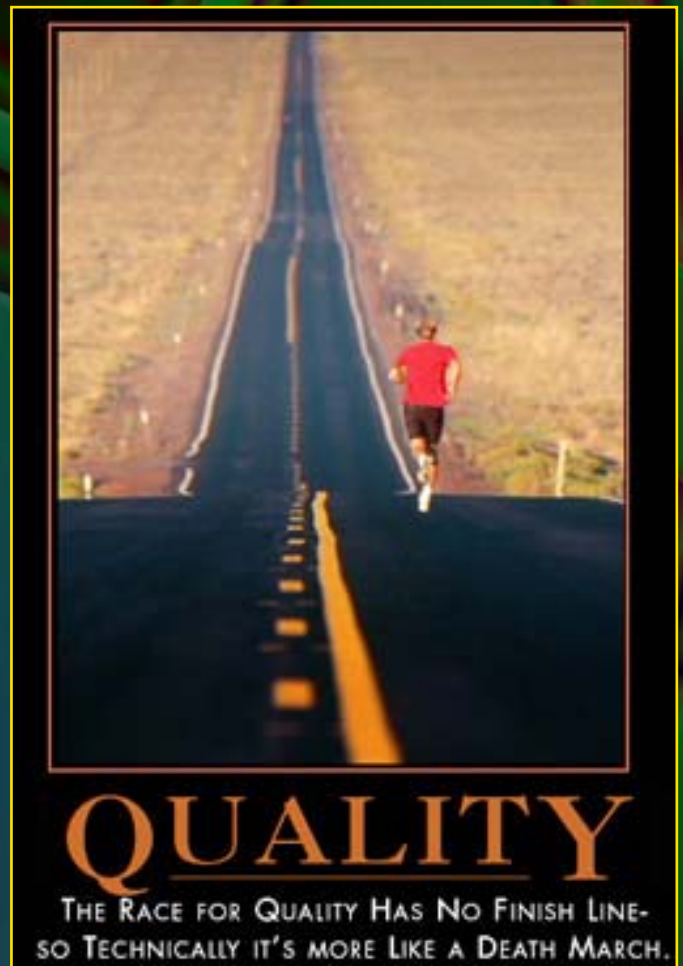
_____

_____

		Emergencies							Labels				Compatibility/Storage							Manifests/Receipts					
		Facility Evacuation Routes	Emergency Coordinators	Emergency Equipment Use	Emergency Procedures Review	Location of Emergency Equipment	Arrangement with Agencies	Post-Emergency Record Keeping	How To Fill Them Out Completely	Accumulation Start Dates	Hazardous Properties of Wastes	Marking Waste Tanks	Incompatibility Hazards	Waste Area Inspection Procedures	Closed Container Requirements	Aisle Space Requirements	Accumulation Time Limits	Prevention of Accidental Releases	Empty Container Regulations	When To Use Manifests/Receipts	How To Use Manifests/Receipts	Generator/DTSC/TSDF Manifest Copies	Waste Shipment Record Keeping	Proper Waste Shipping Descriptions	Manifest Exception Reporting
Check the appropriate boxes on this line to show annual training required for this employee's job duties. →																									
Class Name/Training Description	Date	Check the boxes corresponding to each subject covered by training classes ↓																							

Revised 10/12/2000

DAILY TANK INSPECTIONS NOT DONE OR DONE INACCURATELY



Inspections and Corrective Action

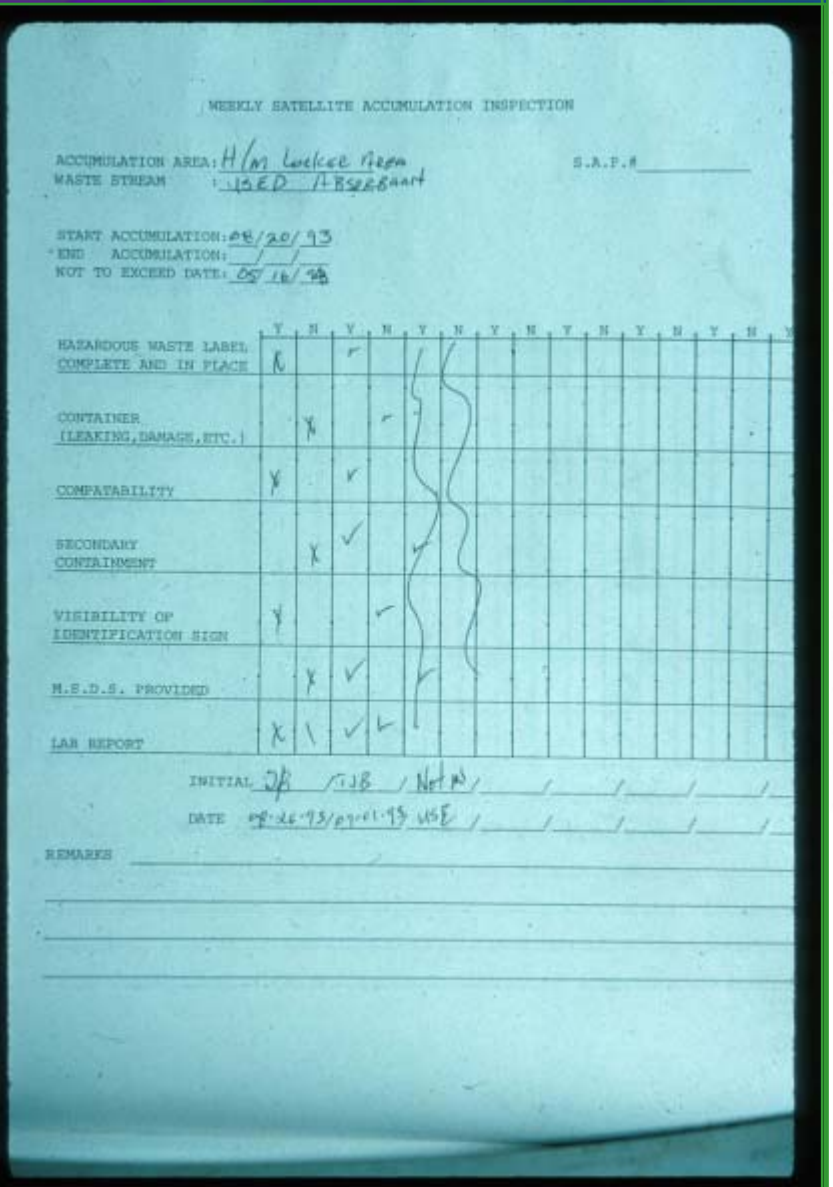
- **SQGs & LQGs: Weekly inspections of container management areas**
  - ***Explicit:*** **Container storage and transfer areas**
  - ***Implicit:*** **Hazardous waste generating and accumulation areas**
    - Satellite areas, too?

- **Required to inspect for (at the *very least*):**
  - **Container deterioration, leaks & condition of flooring/containment**
  - **Other??**
- **For tanks:**
  - *Daily:* above ground portions of the tank & system, and monitoring and leak detection data
  - *Weekly:* tank structure and areas around tank
- **An enormously common violation & a root of other violations**

Inspection Documentation

- Written inspection records or records of corrective action are not *explicitly* required by the regs.
  - But how else would you prove that the required inspections were completed?
  - Also serves as a basis for training refresher
- Written records should include
  - What area was inspected
  - Name and date/time
    - Midweek is better than Mondays & Fridays; mid day is better than early morning or late afternoon
    - Supervision or EH&S should review
  - Conditions noted (compliance verification)
  - Deficiencies noted and corrective action taken or scheduled
  - Three year retention
- Should be performed by a trained, 'objective' individual

Container Inspections



WEEKLY SATELLITE ACCUMULATION INSPECTION

ACCUMULATION AREA: H/M Locker Area
WASTE STREAM: USED ABSORBENT
S.A.P.#

START ACCUMULATION: 08/20/93
*END ACCUMULATION: __/__/__
NOT TO EXCEED DATE: 09/16/93

	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
HAZARDOUS WASTE LABEL COMPLETE AND IN PLACE	X		✓													
CONTAINER (LEAKING, DAMAGE, ETC.)		X		✓												
COMPATABILITY	X		✓													
SECONDARY CONTAINMENT		X	✓		✓											
VISIBILITY OF IDENTIFICATION SIGN	X			✓												
M.S.D.S. PROVIDED		X	✓		✓											
LAB REPORT	X		✓		✓											
INITIAL	JB		JB		Not Pr											
DATE	08-26-93		09-01-93		USE											

REMARKS

HAZARDOUS WASTE STORAGE AREA/SATELLITE STORAGE AREA
WEEKLY INSPECTION CHECKLIST

Inspector Name: _____ Signature: _____ Date: _____

Name of Area Inspected: _____ Time: _____

Additional guidance on reverse	YES	NO*	N/A
1. Is the area free of waste debris, used sorbents and other materials? *(22 CCR 66265.31, CHSC25189.5(a))*	❒	❒	
2. Is the area free of spills or leaks & ground clean and dry? *(22 CCR 66265.31)*	❒	❒	
3. Containment/storage area free of open cracks/gaps & impervious to liquids? *(22 CCR 66265.174)*	❒	❒	❒
4. Secondary containments free of spills, liquids or used sorbents? *(GMP)*	❒	❒	❒
5. Are secondary containment drain valves/caps closed? *(GMP)*	❒	❒	❒
6. Are container tops/sides free of spillage? *(22 CCR 66265.31)*	❒	❒	
7. Are all of the containers in good condition? *(22 CCR 66265.171)* (free of dents and corrosion, not bulging, not torn, weathered or otherwise deteriorating)	❒	❒	
8. Are all containers properly closed (including funnels, bags and removable heads)? *(22 CCR 66265.173(a))*	❒	❒	
9. Are containers completely labeled with the following information? *(22 CCR 66262.34(f))* Generator name and address; accumulation/storage start date(s); contents; physical state; hazardous properties; and EPA ID #	❒	❒	
10. Is the information on the labels clearly readable/legible? *(22 CCR 66262.34(f))*	❒	❒	
11. Are container labels readily visible? *(22 CCR 66262.34(f))*	❒	❒	
12. Are stored/accumulated wastes within allowable accumulation time? *(22 CCR 66262.34(c))*	❒	❒	
13. Are the containers compatible with their contents? *(22 CCR 66265.172)*	❒	❒	
14. Are incompatible wastes stored separately or otherwise segregated? *(22 CCR 66265.177(c))*	❒	❒	
15. Is there adequate aisle space between containers/rows of containers? *(22 CCR 66265.35)*	❒	❒	
16. Are the area hazardous waste warning signs present and readable? *(GMP)*	❒	❒	❒
17. Is emergency equipment accessible and working properly? *(22 CCR 66265.33)*	❒	❒	❒

***Describe any observations for items checked "NO":**

_____

_____

_____

***Corrective actions required or taken for observations for items checked "NO":**

_____

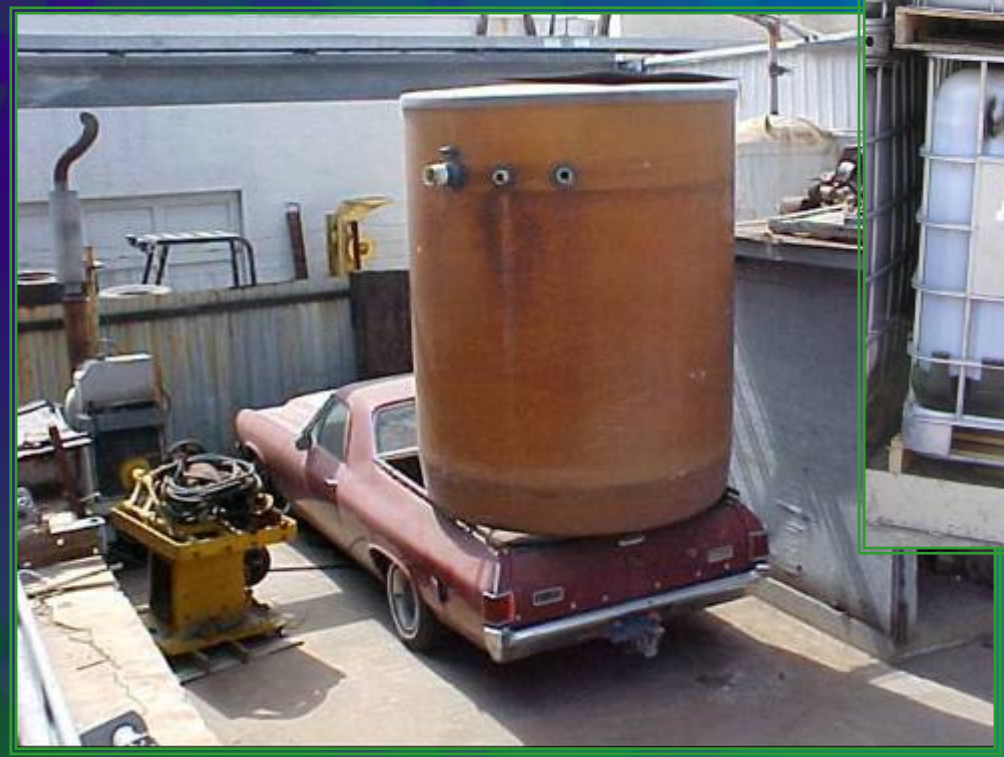
_____

_____

Due Date: _____ Follow-Up Date: _____

Containers vs. Tanks

- ***Portable* Tank: designed and operated to be stationary when full and portable when empty**
  - **Regulated as <u>containers</u>**



Tank Management: *Stationary* tanks and ancillary systems)

- Tank SYSTEM:
  - Tanks
  - Piping
  - Pumps
  - Valves
  - Wet floor collection/ transfer areas, trenches or sumps
- Secondary containment required for tank *system*
  - Including waste containers in the treatment area

Tank Management: Stationary tanks and ancillary systems)

- Overfill controls
  - Waste-feed cut off or by-pass (if continuously or automatically fed)
  - High level alarm
  - 2-foot freeboard (uncovered tanks)
- Integrity tested (if LQG, CA, PBR)
  - every 5 years if sec. cont. is present
- Daily written inspections
- Mandated responses to leaks


T27

HAZARDOUS WASTE TANK SYSTEM DAILY INSPECTION LOG

(AS REQUIRED BY 22 CCR 66265.195)

Business Name: _____

Business Address: _____

Month: _____

Year: _____

Tank System ID: _____

DAY	Is 2nd/wy containment free of waste and liquid?		Is the system free of corrosion and evident damage?		Are pipes, valves and pumps free of leaks and in good condition?		Do open tanks have at least 2 ft. of free board?		Is leak detection program/ equipment working?		Inspected by	Comments
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO		
1												
2												
3												
4												
5												
6												
7												
8												
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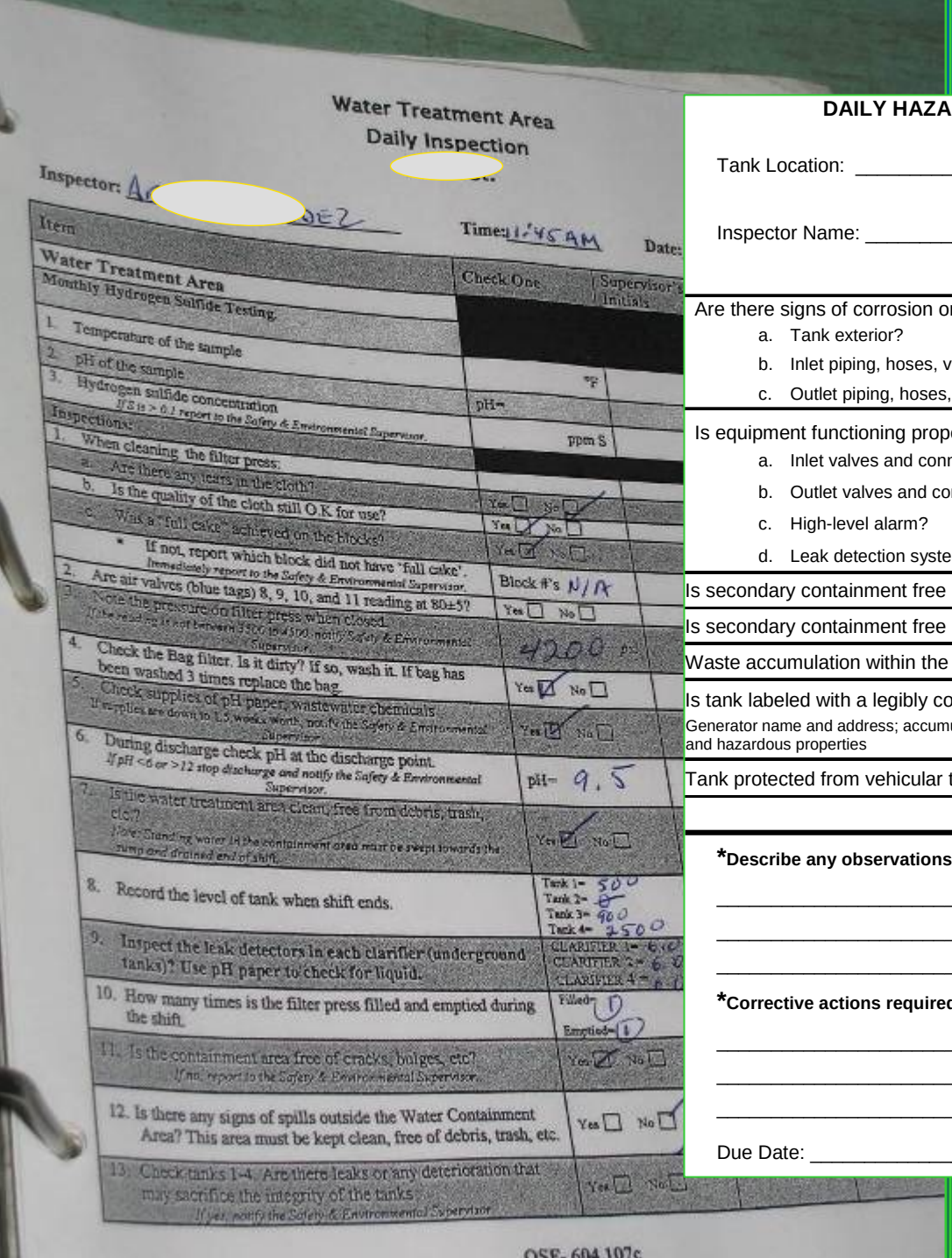


Water Treatment Area
Daily Inspection

Inspector: [redacted] Time: 11:45 AM Date:

Item	Check One	Supervisor's Initials
Water Treatment Area Monthly Hydrogen Sulfide Testing		
1. Temperature of the sample	°F	
2. pH of the sample	pH=	
3. Hydrogen sulfide concentration *If S is > 0.1 report to the Safety & Environmental Supervisor.*	ppm S	
Inspections:		
1. When cleaning the filter press:		
a. Are there any tears in the cloth?	Yes ☐ No ☑	
b. Is the quality of the cloth still O.K. for use?	Yes ☑ No ☐	
c. Was a "full cake" achieved on the blocks?	Yes ☑ No ☐	
* If not, report which block did not have 'full cake'. *Immediately report to the Safety & Environmental Supervisor.*	Block #'s N/A	
2. Are air valves (blue tags) 8, 9, 10, and 11 reading at 80±5?	Yes ☐ No ☐	
3. Note the pressure on filter press when closed. *If the reading is not between 3500 to 4500, notify Safety & Environmental Supervisor.*	4200 psi	
4. Check the Bag filter. Is it dirty? If so, wash it. If bag has been washed 3 times replace the bag.	Yes ☑ No ☐	
5. Check supplies of pH paper, wastewater chemicals. If supplies are down to 1.5 weeks worth, notify the Safety & Environmental Supervisor.	Yes ☑ No ☐	
6. During discharge check pH at the discharge point. *If pH <6 or >12 stop discharge and notify the Safety & Environmental Supervisor.*	pH= 9.5	
7. Is the water treatment area clean, free from debris, trash, etc? *Note: Standing water in the containment area must be swept towards the sump and drained end of shift.*	Yes ☑ No ☐	
8. Record the level of tank when shift ends.	Tank 1= 500 Tank 2= 0 Tank 3= 900 Tank 4= 2500	
9. Inspect the leak detectors in each clarifier (underground tanks)? Use pH paper to check for liquid.	CLARIFIER 1= 6 CLARIFIER 2= 6 CLARIFIER 4= 6	
10. How many times is the filter press filled and emptied during the shift.	Filled= 0 Emptied= 1	
11. Is the containment area free of cracks, bulges, etc? *If no, report to the Safety & Environmental Supervisor.*	Yes ☑ No ☐	
12. Is there any signs of spills outside the Water Containment Area? This area must be kept clean, free of debris, trash, etc.	Yes ☐ No ☑	
13. Check tanks 1-4. Are there leaks or any deterioration that may sacrifice the integrity of the tanks. *If yes, notify the Safety & Environmental Supervisor*	Yes ☐ No ☐	

OSE-604 107c

DAILY HAZARDOUS WASTE TANK INSPECTION CHECKLIST

Tank Location: _____ Type of HW Stored: _____

Inspector Name: _____ Signature: _____ Date: _____

	YES	NO*	N/A
Are there signs of corrosion or leakage: ***(22 CCR 66265.195(a)(2))***			
a. Tank exterior?	❐	❐	
b. Inlet piping, hoses, valves or connections?	❐	❐	
c. Outlet piping, hoses, valves or connections?	❐	❐	
Is equipment functioning properly (test) ***(22 CCR 66265.195(a)(3))***			
a. Inlet valves and connections?	❐	❐	
b. Outlet valves and connections?	❐	❐	
c. High-level alarm?	❐	❐	
d. Leak detection system?	❐	❐	❐
Is secondary containment free of cracks, damage or deterioration? ***(22 CCR 66265.195(a)(4))***	❐	❐	
Is secondary containment free of accumulated liquids? ***(22 CCR 66265.195(a)(4))***	❐	❐	
Waste accumulation within the 90 day accumulation time limit? ***(22 CCR 66262.34(c))***	❐	❐	
Is tank labeled with a legibly completed hazardous waste label? ***(22 CCR 66262.34(f))*** Generator name and address; accumulation/storage start date; contents; physical state; and hazardous properties	❐	❐	
Tank protected from vehicular traffic/parking damage? ***(2000 UFC 8001.11.3)***	❐	❐	

***Describe any observations for items checked "NO":**

_____

_____

_____

***Corrective actions required or taken for observations for items checked "NO":**

_____

_____

_____

Due Date: _____ Follow-Up Date: _____


TANK #
BRIGHT NIC


J-PRESS

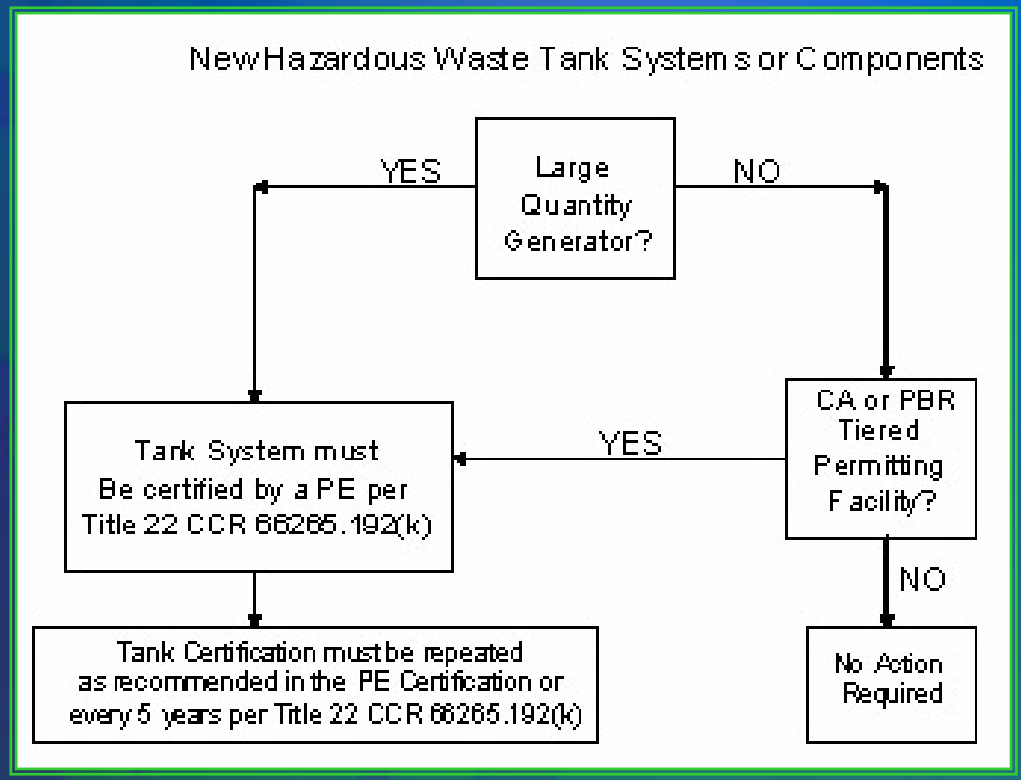
Mmmmmm.....

FAKElicious

NO (or incomplete or outdated) HAZARDOUS WASTE TANK SYSTEM ASSESSMENT BY IQRPE

Stationary Waste Tanks Systems (if LQG, CA, PBR)

- Tank *system* and secondary containment certified appropriate for use
- Independent QRPE (in Calif)
  - Specific assessment & certification requirements
  - Waste oil AST cert. exemption may be available for 3 years



- If LQG: TP exempt HW recycling tank systems also captured


CLOSED
LOOP

Tank Assessments: Two Parts

1. Technical Elements:

- Must include the specific *written statements* listed in California Code of Regulations, Title 22, Section 66265.192

2. Certification:

- An independent, qualified, professional engineer, registered in California, must certify the assessment attesting that all written statements in the assessment are *accurate*, and that the tank system is *suitably designed* to safely hold or store hazardous wastes
- Qualified means essentially a Civil or Structural PE

Tank System Assessment Violations

- ***Assessment not done, out dated, or incomplete***
- ***Penalty can vary… it's not as simple as getting the assessment done:***
  - **Penalty may be adjusted up or down based on the *findings* of the tank assessment**
    - i.e., whether or not remedial actions/repairs were required to obtain the engineer's certification
  - **Can also consider whether or not the facility has been documenting daily tank system inspections**
  - **How incomplete? How out of date?**
  - **System in good condition? Seismically secure?**
  - **Characteristics of the wastes treated?**

New Assessment Guidance… & SDC DEH

cal-cupa forum guidance

CONTENTS

County of San Diego

DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 338-2377
1-800-253-9933

HAZARDOUS WASTE TANK SYSTEMS

To: Hazardous waste generators and treatment facilities
Contractors and Professional Engineers

The California Department of Toxic Substances Control finalized regulations in 1997 that impact operators and owners of hazardous waste tank systems. The regulations address the design, operation, and maintenance of hazardous waste tanks. The County of San Diego enforces these regulations and the operation of tank systems that manage hazardous waste. The regulations emphasize secondary containment of hazardous waste tank systems and a reliable leak prevention and detection program. Tank users must also maintain documentation onsite to demonstrate compliance with the State regulations. This guidance factsheet summarizes the regulations that require independent professional engineers, licensed in California, to design, test, and certify the hazardous waste tank system.

This factsheet consist of 5 parts:

Contact the Hazardous Materials Division at **(619) 338-2222** if you have questions regarding the local regulation of hazardous waste tank systems.

"Environmental and public health through leadership, partnership and science"

Not Just Paper!

- Not usually as simple as hiring a PE to certify…
- Must assure the ***system*** is in compliance
  - Appropriate (and documentable) design standards and waste & treatment compatibility
    - Including material and thickness
  - Seismic protection and structural integrity/design
  - Proper installation
  - Corrosion protection
  - Adequate secondary containment
  - Leak detection & overfill protection
  - Current system PFDs and dimensions
  - Useful life remaining

Common Tank Certification Issues

- Design standards
- Age, suitability, lifespan
- Tightness/integrity testing
- Extent of 'system'
- *System* secondary containment
- Leak detection
- Seismic standards
- Type of engineer

Federal (only) HW Tank System Changes

- **Inspections:** Daily inspections reduced to weekly if:
  - SQGs: If the tank system is provided with full secondary containment for the tank system and
    - Use leak detection equipment *or*
    - Implement established work practices to ensure leaks are promptly identified.
  - LQGs & TSDFs: If the tank system (secondary containment for the tank is already required) is either:
    - Equipped with leak detection equipment
      - When present, data gathered from monitoring and leak detection equipment must continue to be reviewed at least once each operating day
    - Established work practices are implemented that ensure spills or leaks will be promptly identified and remediated.
    - In addition, ancillary equipment that is not provided with secondary containment must be inspected at least once each operating day.
- **Certification by a professional engineer:** Certification by a "qualified professional engineer" replaces certification by an "independent, qualified, registered professional engineer"
  - Can now use in-house licensed/registered engineers rather than hiring consultants to make the required certifications


MAY 16 2002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CLR
#2


EVAPORATION
STORAGE
TANK


DANGER
CAUSTIC


CAUTION


CAUTION
SLIPPERY
WHEN
WET

ESCI ENVIROSERVICES, INC.
COMPLIANCE PROGRAMS • PLANS • TRAINING • AUDITS • PERMITS • MANAGEMENT SYSTEMS

DEH

County of San Diego
Department of
Environmental Health